ESOL for Medical Students:
A Content-based Curriculum and Guide

By

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Abstract

This ESOL curriculum for medical students was developed through my research and teaching as a Fulbright Fellow at the University of Talca (UT) during the 1st semester of 2014 (March-July). It supports intermediate level ESOL medical students in developing the necessary English skills to succeed in their current course work and future careers. A key feature of this content-based curriculum is that the instruction of English is completely contextualized around content, competencies and interactions in the medical field. The content and assessments are also linked to the content, materials and assessments of the content classes that the students take concurrently at the Medical School.

This curriculum was expanded and revised in the process of piloting the class. Its purpose is both to document the experience of the pilot class and to provide a model curriculum for other ESOL classes specifically targeting preclinical and/or clinical medical students. In my reflections at the end of this curriculum I argue that this content-based curriculum provides a motivating and challenging setting for students to learn English that supports them in performing at a higher level of English than standard English proficiencies tests would indicate.

Key Features

- *Contextualized learning* of English around the content, materials and competencies of students' medical classes
- *Collaboration* between the English instructor and instructors in the Medical School
- *Competency-based assessments* that reflect the assessments in the medical classes

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Overview

The first semester of this ESOL curriculum (*Medical ESOL 1*) links to the last semester of preclinical study at the University of Talca (UT). It specifically links to the hybrid course *Integrated Preclinical*, which is composed primarily of 2 classes, *Clinical Examination* (or *Medical Semiology*) and *Pharmacology*. *Clinical Examination* focuses on the examination and diagnosis of a patient and involves a lot of practical tasks such as simulations and presentations on case studies. *Pharmacology* is a seminar class in which students are responsible for reading and discussing medical articles (many in English) on drugs and their uses, effects and modes of actions.

All of the competencies and assessments in *Medical ESOL 1* that are framed around oral interaction and speaking are linked to the competencies and assessments in *Clinical Examination*. For instance, students present case studies in *Clinical Examination*, and then they present these same case studies in English in *Medical ESOL 1*. Also, students take a medical history in *Clinical Examination*, and do the same in English in *Medical ESOL 1*. The listening, reading and writing competencies and assessments in *Medical ESOL 1*, on the other hand, link to the topics and materials in *Pharmacology*. For example, most of the topics in *Medical ESOL 1,* such as migraines, neurology, and cancer, were chosen and scheduled to align with the topics and schedule of *Pharmacology*. As much as possible, assigned English language medical articles in *Pharmacology* were developed into English learning materials and activities for the ESOL class. By engaging with these texts and activities in English class right before their assigned dates in *Pharmacology*, the students were not only motivated in the English class, but they also better prepared to for their *Pharmacology* class.

The second semester of this ESOL curriculum (*Medical ESOL 2*) links to the first semester of clinical study at UT, specifically to the course *Integrated Clinical Practice of Medicine and Surgery*. Whereas *Medical ESOL 1* focuses primarily on academic texts and competencies, such as listening to lectures and writing summaries, *Medical ESOL 2* incorporates more professional texts and competencies such as listening to authentic medical consultations and writing medical reports. This shift is meant to reflect the parallel shift that takes place between preclinical and clinical studies. The content in *Medical ESOL 2* is mainly organized around the topics of neurology and cardiology, two principal topics in *Clinical Medicine and Surgery.* Because I only had the opportunity to pilot the first part of this curriculum, *Medical ESOL 1*, the scope and sequence for *Medical ESOL 2* is not as fully developed and does not include the sample lessons, materials, and assessments that I have included for *Medical ESOL 1.*

Application of this Curriculum

Though this ESOL curriculum is specifically tailored to the medical students and their content classes in the Medical School at the University of Talca (UT), it is designed to be flexible enough to be used in English classes for intermediate to advanced level ELL learners who are concurrently taking or planning to enroll in a university medical program, either in the US or abroad.

Considerations

Though there was some variation in terms of the academic preparation of the medical students at UT (see the situational analysis that follows), most of the students had solid first language literacy skills and academic skills; this curriculum therefore largely takes these skills for granted. Additionally, because this curriculum was designed for Spanish speaking students, it focuses less on the instruction and understanding of technical and medical vocabulary. This vocabulary in English is often Latin-based and/or equivalent in Spanish so, rather than focusing on the understanding and use of technical language, this curriculum focuses more on developing skills in explaining these terms in more colloquial language.

Application in an international context

There is a growing recognition that English is a necessary skill for medical students even if they plan to practice in countries where English is not spoken. At some universities, including UT in Chile, professors regularly assign articles in English and expect students to be able to understand them. Some universities in non-English speaking countries are becoming bilingual institutions and are teaching many of their content classes, particularly in the technical fields, in English. This growing use of English is leading many universities in non-English speaking countries to require basic English proficiency levels of all graduating students and to revamp their teaching approaches. This trend underlies the need to transform the instruction of English to better meet the specific needs and purposes of students who are going into medicine.

Application in a US context

Many international students are coming to American universities to study the technical fields and finding that they lack the academic English skills that they need to engage and succeed in their university coursework. Universities in the US are starting to take note of this and some are developing English for Academic Purposes (EAP) programs with the goal of helping bridge ESOL international students into their content classes. A challenge that EAP programs face is that students with specific academic/career goals, such as medical students, frequently do not see the connection between these EAP classes and their field and do not feel that their specific needs are being addressed when they are placed in these standard EAP classes. This curriculum directly links the learning of English to the learning and content in the classes and professional goals of the medical students.

SITUATIONAL ANALYSIS

The first step in designing this curriculum was to understand the situation and needs on at the University of Talca (UT). The three key players in the situational analysis are 1) the national policies on English language instruction in Chile, 2) the university and students at UT and 3) the medical school at UT.

National context

In 2014 Chile adapted the a National Strategy on English (Estrategia Nacional de Inglés 2014-2030). Below are the components of the plan.

- Support the use of English in the home and daily life of our families and society
- Facilitate the use of communicative strategies in English for K-12 students
- Verify that English teachers meet the required linguistic and teaching standards
- Provide options for specialization in English that improve the competencies of professional and workers in their fields.

The ESOL medical curriculum directly addresses the fourth point of the plan in that it provides specialization in English for the medical field. Though Chile seems to be ahead of the curve, many other countries are also adapting similar policies**.**

The university and students

While searching for a host university to support my Fulbright application I reached out to the University of Talca and began a dialogue with the director of the School of Languages, Katja Brachmann. Recently installed as director, Katja was already in the process of exploring ways to adapt a more content and competency-based approach in the English classes at UT. Our interests made a perfect match and the University agreed to sponsor me.

The University of Talca is in the midst of a major transformation regarding the instruction and learning of English. According to Katja, UT is the first university in Chile to adapt a competency-based approach across the different university programs. Their long-range goal is to become a bilingual English/Spanish institution. Because the school has large programs in the technical fields such as medical and engineering, the university is particularly interested in developing strategies and curriculum that will link their ESOL classes to these science courses.

Additional facts about the university that Katja related to me:

- UT is a public university, considered a “regional university”
- Recently ranked as the best university in Chile outside of Santiago
- Nearly all academic programs require English classes (3-5 semesters)

Challenges faced by teachers and students in English classes at UT (from conversation with Katja):

- Students come from diverse social-cultural and educational backgrounds with many

students coming from urban and highly educated backgrounds and other students coming from rural *campesino* backgrounds with poor access to education.

- Seventy percent of the students are first generation college students.
- Ninety percent of students take eight years of English in the primary and secondary levels and then place in at Level 1 in the university English classes.
- Students in all academic programs generally demonstrate low motivation in the English classes.
- Students (including the medical students) take over thirty hours a week of content classes in their discipline in addition to English, which means that language classes are often the first to be dropped.
- In the language courses fewer hours are given to each level than recommended by the European Common Standards.
- Students have difficulties with time management.
- International universities with ties to UT report that the UT students who go abroad to study for a year don't have the necessary English skills for success.

Some goals that Katja has articulated for the language program include:

- Send more students abroad.
- Improve the curriculum and establish better competencies.
- Develop better assessments for the students.
- Improve the quality of teaching.
- Increase consciousness about the importance of learning languages (especially English).
- Develop more content-based English classes.
- Ensure that all students graduating from 5th year English have a minimum of C1 level according to the European Standards.

The Medical School at UT

See the section on Content-based instruction (below) to see a situational analysis of the Medical School.

CONTENT-BASED INSTRUCTION

From the beginning, this ESOL curriculum was developed according to a content-based approach. In section below I present an overview of content-based instruction. Then in the next section I explain my rationale for developing this curriculum along a content-based model. Finally, I discuss my experiences in collaborating with the professors in the Medical School at UT in developing this curriculum.

Overview of content-based instruction

Content-based instruction (CBI) is a teaching approach that contextualizes the instruction of English around specific academic content. The focus of learning is both on the language (English) and on the content area (such as medicine). CBI is inherently focused on meaningful communication and is well-suited to both task and project-based instruction. It can be highly motivating for students with academic goals in a particularly field, particularly if the content, discourses and tasks in the CBI class line up with the same content, discourses and tasks that they have to carry out in the content classes in their field. Furthermore a CBI class helps focus the learning on the specific skills (such as explaining a procedure) or content (such as medical vocabulary) that the students need to know for their academic content classes. There are many studies that have shown CBI instruction to be more effective than other approaches of teaching ESOL in helping students reach their academic goals (Ananyeva 2013).

Below are some principles of content-based instruction

- Contextualized: The instruction is contextualized around the students' specific academic content area.
- Authentic: The learning of English is integrated around the language skills and content in authentic ways.
- Outcome-based: The instruction links student learning to the tasks and assessments in their academic content classes.
- Motivating: The instruction is more motivating and relevant for the students as it is directly connected to their needs.
- Assets-based: Because the students are experts in the content, their learning can focus on more demanding language forms and tasks, and it also provides a more authentic context for meaning-based communication.

Rationale for this class

Through my initial investigation in planning this ESOL class, it became clear that there was a real need for the medical students to learn English. My needs analysis (see the following section) demonstrated that both the medical professors and medical students believed that English was important for a medical student to pursue their academic and professional goals. Complex medical papers written in English were regularly assigned by the professors and the students were woefully unprepared to understand them.

But this understanding brought up the resulting question: Why did the students seem to put so little effort into their English classes? (see university and students in the situational

analysis)

It didn't take me long to discover some possible reasons. At UT medical students are required to take 5 semesters of English. These classes only constitute 2-3 credits (2-3 hours a week) compared to the additional 30 credits (30 hours a week) that the medical students are required to take each semester in their content classes. And these content classes are demanding, challenging and immediately relevant to their academic and professional goals. The English classes are clearly prioritized lower; students feel that the English classes and homework take valuable time away from their content classes. And to a certain degree that is the case. The English standard classes that they take have nothing to do with their learning in their content classes. Their textbook is a generic ESL book thematically organized around knowing different cultures of the world. It is grammatically organized and the major assessments in the standard English classes focused primarily on grammar – through fill-in-the-blanks or through writing sentences in which they are required to write a target grammar form.

My goal with this content-based English course was to transform it into something that actually helped the medical students in their medical classes rather something that drained their time away. For example, instead of assigning them English reading texts that had nothing to do with their field, I would take the same medical articles in English that they were assigned in their medical classes and develop them into English learning tasks. With this rationale – to make the English class both motivating and relevant - I decided to develop my curriculum side by side with their content classes and integrate the learning of English around concepts, class objectives, content and assessments in their medical classes.

Collaboration with the Medical School

My collaboration with the Medical School was both the most challenging part of developing this curriculum and also the key to its success. The first challenge (and first failure) was getting the cooperation of the Medical School director. Though he had signaled his support of my collaboration and development of this class, it soon became clear that he had no interest in providing any support. After 3 months of fruitless attempts at email and then 2 weeks of canceled meetings, it was clear that he was more a wall than an asset. Fortunately, almost through chance encounters, I was able to make contact with other medical professors in the department. It was through the help and interest of these collaborations that the content for the class was able to take shape.

Gustavo, a medical professor, soon became my chief collaborator. He was a perfect choice for 2 reasons. First, Gustavo was the professor that best understood my curriculum project, was most encouraging of its aims, and finally most genuinely interested in collaborating with me. Secondly, the course he was in charge of – Integrated Preclinical – proved to be the ideal medical class to link with my English class. Preclinical actually encompasses 2 classes – Clinical Examination and *Pharmacology*. Clinical Examination with its focus on doctor-patient interactions provided the ideal context for the speaking/listening skills of my English class. Clinical Examination was also a good fit due to the high number of task-based assessments that the students need to carry out – such as presenting a case study or carrying out a medical history on a patient. *Pharmacology*, a seminar class where students are responsible for reading assigned articles (many in English) on drugs and their uses, effects and modes of actions proved to be the ideal context for reading and writing skills.

Gustavo was the main instructor of Clinical Examination and 2 other professors were the instructors of *Pharmacology*. My collaboration with these 2 professors was pretty much limited to them sending me the medical articles that they were assigning to the medical students.

Most of my collaboration with Gustavo (and I believe the most important part) involved linking the content, objectives and assessments of his class with my English curriculum. This was not an easy task. I began by meeting with Gustavo at the beginning of the semester and reviewing the syllabus and course schedule for Preclinical with him. But this initial meeting would not have been enough to understand his class sufficiently to my link my class with his. I both needed to understand the content a little better, but I also needed to understand the tasks and assessments that the students had to carry out in his class. For that reason I frequently sat in on his classes as an observer and I also regularly met with Gustavo throughout the semester to better understand what he and the students were doing in his class. This collaboration with Gustavo was key to the development of this curriculum and I could not have linked it so closely with the medical school if it had not been for him.

NEEDS ASSESSMENT

The purpose of needs analysis of the needs assessment was to find out:

- What academic and professional purposes the medical students have for learning English
- What language skills the students need to master as students and professionals in the medical field

Methods

The needs assessment was conducted in the week before and during the first week of classes through the following:

- Questionnaires in Spanish were completed by 5 professors in the Medical School of the University of Talca (see appendix)
- Questionnaires in English were completed by 12 medical students in the pilot class (See appendix)
- Interviews and conservations with the professors in the Medical School

Results and interpretation

Below are the results and interpretation of the needs assessment for the following:

- Purpose for learning English
- Necessary English skills

Purpose for learning English

The 5 professors in the medical school ranked the following purposes in order of importance. The following is a compilation of their rankings starting with the most highly ranked purpose down to the lowest ranked purpose.

1. Students need to read and research textbooks, articles and publications in English.
2. Students will need to know English if they plan to further their studies.
3. Students need to attend and/or present oral presentations in English.
4. Students need to write research papers or articles in English.
5. Students need to understand lectures in English in their university classes.
6. Students will need to communicate with their patients in their work.
7. Students will need to communicate in English with international colleagues in the field
8. Students need to speak English in their university classes.

The 12 students in the pilot Medical ESOL class ranked the same purposes in order of

importance. The following is a compilation of their rankings starting with the most highly ranked purpose down to the lowest ranked purpose.

1. Students will need to know English if they plan to further their studies
2. Students need to read and research textbooks, articles and publications in English.*
3. .Students will need to communicate in English with international colleagues in the field*
4. Students need to understand lectures in English in their university classes.
5. Students will need to communicate with their patients in their work.
6. Students need to write research papers or articles in English.
7. Students need to attend and/or present oral presentations in English.*
8. Students need to speak English in their university classes.*

*Closely ranked

Interpretation

The results from the Medical professors indicate that they believe that the 2 primary purposes medical students have for learning English are 1) to read research in English and 2) to continue their medical studies in the future. These top choices in addition to the following 2 ranked purposes (participating in conferences and writing research and articles) suggest that the learning of English is more important for carrying out academic practices in a university, research role or professional conference than communicative practices in a work setting.

The students are in complete agreement with the professors in terms of the 2 primary purposes they identify for themselves in learning English: 1) reading research in English and 2) continue their medical studies in the future. However there is some variation with their following rankings.

Necessary English skills

The 5 professors in the medical school ranked the following English skills according to importance. The following is a compilation of their rankings starting with the most highly ranked need down to the lowest ranked need.

1. Reading
2. Listening
3. Writing
4. Speaking
5. Grammar*
6. Vocabulary *
7. Pronunciation*
8. Translating between English and Spanish*

*Closely ranked

The 9 students in the pilot Medical ESOL class ranked the same English skills according to importance. The following is a compilation of their rankings starting with the most highly ranked need down to the lowest ranked need.

1. Speaking
2. Reading
3. Listening
4. Writing
5. Grammar
6. Pronunciation
7. Vocabulary
8. Translating between English and Spanish

Interpretation

The professors clearly identified the 4 traditional communicative language skills (reading, writing, listening and speaking) as being the most important for a medical student to master. The remaining skills received mixed scores showing no strong order of importance. These responses suggest that the Medical Professors consider receptive skills to be more important than productive skills and written skills to be more important than oral skills. They also suggest that the professors consider communication and meaning-focused skills to be important than discreet decontextualized skills.

Though similar to the results from the professors, it's important to note the students ranked speaking as the most important skill – not altogether that surprising that the students would rank this oral active skill above the passive ones.

Gustavo's point of view

Outside of this data, Gustavo, a medical professor and my principle collaborator, shared an important perspective on the English needs of a medical student and professional. He said that though he reads well in English, his inability to communicate orally limits him in his profession. He also emphasized the importance of being able to explain medical language in general English so that non-specialists can understand.

His comment along with the voice of the students both provide strong rationales for giving equal prominence to all 4 language skills. Conveniently, this rationale fits nicely with my own personal bias regarding the importance of developing a class that focuses equally on these 4 basic skills.

Conclusion

The following are therefore the following main conclusions that I drew from this needs analysis.

- The medical students at the University of Talca need English in order to carry out English language practices in an academic setting such as a university, in a research

role or at a professional conference more than they need it to carry out English language practices in a work setting.

- Though reading and writing skills are perhaps more relevant to the tasks that the students will have to carry out, oral communication skills are also important.

Grammar and writing needs

In addition to identifying the goals and needs of the students, I also tried to identify the grammar and writing structures that the students needed to improve. On the first week of the class, the students wrote a paragraph that I reviewed to identify common grammar errors (see student needs assessment handout). Throughout the semester I continued to document common student errors in their writing with the resulting findings below.

Common writing grammar errors made by the students

- Run-on errors
- Incorrect use of linking words
- Dropping subjects
- Use of the passive voice
- Third person “s” and use of auxiliary verbs in perfect tenses

COMPETENCIES and ASSESSMENTS

A key component of this curriculum is that the English language competencies are specifically framed as academic and professional competencies that medical students need to master. The assessments directly evaluate the students' ability to carry out these competencies.

In the first two sections, the goals, competencies and assessments of this curriculum are presented. Then in the next two sections I explain both the criteria and rationale for defining the competencies. In the following sections I present the grading scheme and explain in more detail the assessments. Finally, I present a table that aligns the curriculum competencies with corresponding competencies in the Common European Framework.

Goals

The following goals for the curriculum were defined based on the results of the needs assessment:

- Students will improve their skills in understanding lectures and talks in the medical field.
- Students will improve their skills in presenting and participating in medical conferences.
- Students will improve their skills in communicating orally with patients.
- Students will improve their skills in understanding written medical texts.
- Students will improve their skills in writing on medical issues.

Competencies and assessments for *Medical ESOL 1*

Language Skill	Competencies and sub-competencies	Assessments
Oral interaction	***Communicate orally with a patient*** • Engage in small talk • Take a medical history • Explain a procedure • Explain a diagnosis and treatment • Use simple language	Role play: Doctor-patient consultation
Listening	***Understand a lecture, explanation or consultation on a medical issue*** • Understand purpose and organization of a lecture or explanation • Understand key information of a lecture or explanation • Understand key vocabulary in context of a lecture or explanation	Listening test 1 Listening test 2
Speaking	***Present information on a medical issue*** • Present a case study • Present data	Oral presentation of case study Oral presentation of data
Reading	***Understand medical texts such as technical descriptions, abstracts, case reports, and medical research articles.*** • Understand purpose and organization • Understand key vocabulary in context • Understand key information • Make inferences • Read critically	Reading test 1 Reading test 2
Writing Reading/ Writing	***Write an organized paragraph on a medical issue*** • State and support a position on a medical issue • Paraphrase technical passages and language into general English • Summarize a medical article	Writing test 1 Writing test 2

Competencies and assessments for *Medical ESOL 2*

Language Skill	Competencies and sub-competencies	Assessments
Oral interaction	***Communicate orally with a patient*** • Give advice • Elicit information about symptoms • Explain a medical case • Explain a procedure • Use simple language	Role play: Doctor-patient consultation
Listening	***Understand a lecture, explanation or consultation on a medical issue*** • Understand purpose and organization of an explanation or consultation • Understand key information of an explanation or consultation • Understand key vocabulary in context of an explanation or consultation	Listening tests 1 and 2
Speaking	***Present information on a medical issue*** • Present a case study • Present a review of a medical text	Oral presentation of case study Oral presentation on medical text
Reading	***Understand medical texts such as technical descriptions, abstracts, case reports, and medical research articles.*** • Understand purpose and organization • Understand key vocabulary in context • Understand key information • Make inferences • Read critically	Reading test 1 Reading test 2
Writing Reading/ Writing	***Write an organized paragraph on a medical issue*** • Write a medical report such as a procedural explanation, a case study or a report on a patient's medical condition • Summarize a medical article	Writing test 1 Writing test 2

Criteria for defining the competencies

The competencies, in addition to supporting the goals of this curriculum, each match the objectives of one or more of the following: the content class, the class textbook, and standard academic objectives. Additionally, the formulation of these criteria was guided by the description of the assessments used in the *Proficiency Examination of English for Medical Purposes in Hungary* as described in the article "Development of International Standards for Medical Communications in English" (see bibliography).

Match the objectives of the content class. This curriculum defines its competencies to match as closely as possible the competencies in the medical content classes that the students concurrently take. Obviously, not all of of the competencies in the content classes can be translated into a language learning competency, but many lend themselves well to translation. One example is the presentation of a case study, one of the speaking competencies in *Medical ESOL 1*. Preparing a case study is a core competency and task in *Oral Examination*, which I framed as a speaking competency and developed into an assessment task in the English class.

Match the objectives described in the article "Development of International Standards for Medical Communications in English." This article defines standards of English communication for medical responders and describes the assessments for a proficiency exam. It identifies the following forms of medical communications and assessment tasks. (See appendix for a complete list of the assessment tasks.)

- Take a case history.
- Give explanations to patients, staff members, and peers.
- Listen for factual and implied information in a native EMP text.
- Listen for factual and implied dialogue between two biomedical professionals or a professional and a layman.
- Give and understand conference presentations.
- Present a graph, diagram, or a table.
- Understand global, factual, and implied information in an authentic general medical text[s]...such as encyclopedias; medical textbooks; technical descriptions; and official letters or applications.
- Summarize a description of a disease in English.
- Write official letters, reading research articles and hospital documents.

Match the objectives of the class textbook: The objectives of the course textbook, *English for the Health Sciences,* are framed around the competencies in English that medical students need to carry out in their academic and professional roles.

Match standard academic objectives: Because the needs assessment identified future academic study as an important context for using English, I also defined academic competencies that are necessary for carrying out academic tasks, such as listening to lectures and writing summaries.

Rationale for defining the sub-competencies

Oral interaction competency: *Students will be able communicate orally with patients.*

Sub-competencies: *Medical ESOL 1*

- Students will be able to engage in small talk.
- Students will be able to take a patient's history.
- Students will be able to explain a procedure.
- Students will be to explain a diagnosis and treatment.
- Students will be able to use simple language.

Sub-competencies: *Medical ESOL 2*

- Students will be able to give advice.
- Students will be able to elicit information about symptoms.
- Students will be able to explain a medical case.
- Students will be able to explain a procedure.
- Students will be able to use simple language.

The oral interaction sub-competencies for *Medical ESOL 1* were determined because they match up both with the competencies in *Clinical Examination*, the content class that the preclinical students take, and with the first unit of the textbook, *English for the Health Sciences.* The oral interaction competencies for *Medical ESOL 2* match up with the sub-competencies in *Clinical Medicine and Surgery*, the content class the medical students all take, and also with the second and fourth unit of the textbook, *English for the Health Sciences.* Many of the sub-competencies in both classes, such as taking a patient's history, explaining a case study, explaining a procedure and using simple language, also match up with the tasks defined in “Development of International Standards for Medical Communications in English”.

Listening competency: *Students will be able to understand a lecture, explanation or consultation on a medical issue.*

Sub-competencies: *Medical ESOL 1*

- Students will be able to understand purpose and organization of a lecture or explanation.
- Students will be able to understand key information of a lecture or explanation.
- Students will be able to understand key vocabulary in context of a lecture or explanation.

Sub-competencies: *Medical ESOL 2*

- Students will be able to understand purpose and organization of an explanation or consultation.

- Students will be able to understand key information of an explanation or consultation.
- Students will be able to understand key vocabulary in context of an explanation or consultation.

The principal listening competency was defined based on the contexts where medical students will need to understand spoken English. Reflecting the shift towards more practical hands-on learning as students move from preclinical to clinical studies, the contexts for *Medical ESOL 1* are more academic (lectures and explanations) whereas the contexts for *Medical ESOL 2* are more practical (explanations and consultations). The sub-competencies were determined based on key listening skills required in academic and professional contexts.

Speaking Competency: *Students will be able to present information on a medical issue*

Sub competencies for *Medical ESOL 1*

- Students will be able to present a case study.
- Students will be able to present data.

Sub competencies for *Medical ESOL 2*

- Students will be able to present a case study.
- Students will be able to present a review of a medical text.

These speaking competencies were based on the tasks that medical students will have to carry out as students and professionals. The first competency for both *Medical ESOL 1 and 2*, presenting a case study, matches up with regular assignments that the students have to carry out in both in Preclinical Clinical Medicine and Surgery. The second competency for *Medical ESOL 1*, presenting data, matches up with one of the key speaking competencies defined in "Development of International Standards for Medical Communications in English, presenting a graph, table or diagram. The second competency in *Medical ESOL 2,* presenting a review of a medical text, is a task that the medical students have to carry out in both Preclinical and Clinical Medicine and Surgery.

Reading competency: *Students will be able to understand medical texts such as technical descriptions, abstracts, case reports, and medical research articles.*

Sub competencies for *Medical ESOL 1 and 2*

- Students will be able to understand purpose and organization.
- Students will be able to understand key vocabulary in context.
- Students will be able to understand key information.
- Students will be able to make inferences.
- Students will be able to read critically.

The reading competencies were based on key academic skills that the students need in order to read the medical articles that they are assigned in their medical content classes and that

they will encounter as professionals. The types of texts match up with the texts that they are assigned in their medical content classes and that are assessed in “Development of International Standards for Medical Communications in English”.

Writing and reading/writing competencies: *Students will be able to write an organized paragraph on a medical issue.*

Sub competencies for *Medical ESOL 1*

- Students will be able to state and support a position on a medical issue.
- Students will be able to paraphrase technical passages and language in general English.
- Students will be able to summarize a medical article.

Sub competencies for *Medical ESOL 2*

- Students will be able to write a medical report such as a procedural explanation, a case study or a report on a patient's medical condition
- Students will be able to summarize a medical article.

The sub-competencies for *Medical ESOL 1* are based primarily on key academic writing skills that students need to master such as organizing a paragraph, stating and supporting a position, and paraphrasing and summarizing. Summarizing short texts is also defined as an assessment task in “Development of International Standards for Medical Communications in English.” In *Medical ESOL 2* the sub-competencies are more aligned to the practical writing skills that medical professionals will have to carry out, drawing on the tasks defined in “Development of International Standards for Medical Communications in English” such as writing a report on hospital discharge instructions, a procedural explanation or a case study report.

Grammar and writing skills

In addition to the competencies listed above, this curriculum also supports students in mastering the grammar and structures listed below. These were selected based on common student errors found in their writing diagnostic test (see needs assessment) and subsequent written work. Additionally I selected them based on their use and relevancy for carrying out the class writing and speaking tasks. I also attempted to align them as closely as possible to the grammar objectives that are defined in the corresponding English classes at UT.

Medical ESOL 1

- Simple present, simple past and present perfect
- Correcting sentence fragments and dropped subjects
- Use of linking structures such as coordinators, subordinators and transitions
- Correcting run-on errors
- Use of the passive structure in simple and past tenses

Medical ESOL 2

- Modals for giving advice
- Compound nouns

- Simple past, past continuous and past perfect
- Modals for deductions
- Phrasal verbs
- Use of the passive structure in all tenses

Grading scheme

Role play	10%
2 oral presentations	10%
2 reading tests	20%
2 writing tests	20%
2 listening exams	20%
Homework and participation	20%

Explanation of the assessments

Role play: At the end of the semester students participate in a role play of a medical consultation between a doctor and a patient in which they carry out the oral interaction competencies defined for the semester. (See a sample role play assignment and rubric for *Medical ESOL 1* under sample assessments)

Listening tests: Two listening tests are given in class - one at the mid-semester mark and one near the end of the semester. In each test students listen to/watch two recordings or videos and then answer multiple choice questions and some short answer questions that evaluate their skill in carrying out the listening competencies. In *Medical ESOL 1* the recordings and/or videos are authentic lectures on medical issues while in *Medical ESOL 2* the recordings are from authentic doctor-patient consultations. (See a sample listening test for *Medical ESOL 1* under sample assessments. Go to the Materials sections to see sources for the recordings and videos used in the listening tests.)

Oral presentations: Students deliver 2 presentations based on the competencies defined for the semester. (See a sample presentation assignment and rubric for *Medical ESOL 1* under sample assessments.)

Reading tests: Two reading tests are given in class - one at the mid-semester mark and one near the end of the semester. In each test students read 2-3 authentic medical texts ranging from passages of one paragraph in length to full articles of 1-2 pages and answer multiple choice questions and 1-2 short answer questions that evaluate their skill in carrying out the reading competencies. If possible, at least one of the texts in each test should come directly from an assigned English language medical article in their medical content classes. (See sample reading test for *Medical ESOL 1* under sample assessments. Go to the Materials sections to see sources for the texts and articles used in the reading tests.)

Writing tests: Two writing tests are given in class - one at the mid-semester mark and one near the end of the semester. In each test students write 2 one-paragraph responses to 2 separate writing prompts based on the writing competencies defined for the semester. Each writing prompt includes a medical text such as a passage or short article that the students must respond to. (See a sample writing test for *Medical ESOL 1* under sample assessments.

Go to the Materials sections to see sources for the texts and articles in the reading tests.)

Participation and homework: Studying and engaging in English outside of the class and active participation inside the class are key to learning English. For that reason, students are evaluated by how often they complete their homework and how active they participate in class.

Alignment with the Common European Framework

The competencies for all English classes at UT are defined according to the Common European Framework (see bibliography). In the table below the competencies and sub-competencies from this curriculum are aligned with the B-1 competencies of the Common European Common Framework.

Skill	Competencies and sub-competencies	B-1 Competencies from the Common European Framework
Oral interaction	Communicate orally with a patient • Engage in small talk • Take a medical history • Explain a procedure • Explain a diagnosis and treatment • Use simple language • Give advice • Elicit information about symptoms • Explain a medical case	Overall oral production p. 58 • Can reasonably fluently sustain a straightforward description of one of a variety of subjects within his/her field of interest, presenting it as a linear sequence of points. Information exchange p. 81 • Can exchange, check and confirm accumulated factual information on familiar routine and non-routine matters within his/her field with some confidence. Can describe how to do something, giving detailed instructions. • Can summarise and give his or her opinion about a short story, article, talk, discussion, interview, or documentary and answer further questions of detail. • Can find out and pass on straightforward factual information. Can ask for and follow detailed directions. Can obtain more detailed information .Interview and being interviewed p. 82 • Can provide concrete information required in an interview/consultation (e.g. describe symptoms to a doctor) but does so with limited precision. • Can carry out a prepared interview, checking and confirming information, though he/she may occasionally have to ask for repetition if the other person's response is rapid or extended.

Skill	Competencies and sub-competencies	B-1 Competencies from the Common European Framework
Listening	Understand a lecture, explanation or consultation on a medical issue • Understand purpose and organization • Understand key information • Understand key vocabulary in context	Overall listening p. 66 • Can understand straightforward factual information about common everyday or job related topics, identifying both general messages and specific details, provided speech is clearly articulated in a generally familiar accent. • Can understand the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure etc., including short narratives. Listening to a recording p. 68 • Can understand the information content of the majority of recorded or broadcast audio material on topics of personal interest delivered in clear standard speech. Identifying Cues And Inferring (Spoken & Written) p. 72 • Can identify unfamiliar words from the context on topics related to his/her field and interests. Can extrapolate the meaning of occasional unknown words from the context and deduce sentence meaning provided the topic discussed is familiar.
Speaking	Present information on a medical issue • Present data • Present a case study • Present on a medical text	Overall oral production p. 58 • Can reasonably fluently sustain a straightforward description of one of a variety of subjects within his/her field of interest, presenting it as a linear sequence of points. Addressing audiences p. 60 • Can give a prepared straightforward presentation on a familiar topic within his/her field which is clear enough to be followed without difficulty most of the time, and in which the main points are explained with reasonable precision.

Skill	Competencies and sub-competencies	B-1 Competencies from the Common European Framework
Reading	Understand medical texts such as technical descriptions, abstracts, case reports, and medical research articles. • Understand purpose and organization • Understand key vocabulary in context • Understand key information • Making inferences • Read critically	Overall reading comprehension p. 69 • Can read straightforward factual texts on subjects related to his/her field and interest with a satisfactory level of comprehension. Reading for orientation p. 70 • Can scan longer texts in order to locate desired information, and gather information from different parts of a text, or from different texts in order to fulfill a specific task. Reading for information and argument p. 71 • Can identify the main conclusions in clearly signaled argumentative texts. Identifying Cues And Inferring (Spoken & Written) p. 72 • Can identify unfamiliar words from the context on topics related to his/her field and interests. Can extrapolate the meaning of occasional unknown words from the context and deduce sentence meaning provided the topic discussed is familiar.
Writing Reading/ Writing	Write an organized paragraph on a medical issue • State and support a position on a medical issue. • Paraphrase technical passages and language in general English. • Summarize a medical article. • Write a medical report	Overall written production p. 61 • Can write straightforward connected texts on a range of familiar subjects within his field of interest, by linking a series of shorter discrete elements into a linear sequence. Write a report p. 62 • Can summarise, report and give his/her opinion about accumulated factual information on familiar routine and non-routine matters within his/her field with some confidence. • Can write very brief reports to a standard conventionalised format, which pass on routine factual information and state reasons for actions.

CURRICULUM CONTENT

Course description: *Medical ESOL 1*

This course is designed to support preclinical students in developing the necessary English skills for succeeding in their current course work and future careers. The instruction of English is completely contextualized around content, issues and interactions in the medical field. It is designed to link with *Integrated Preclinical*, a course that the medical students take concurrently during their last semester of preclinical studies.

Class duration: 3 hours a week for 17 weeks

Course description: *Medical ESOL 2*

This course is designed to support medical students in developing the necessary English skills for succeeding in their current course work and future careers. The instruction of English is completely contextualized around content, issues and interactions in the medical field. It is designed to link with *Integrated Clinical Practice of Medicine and Surgery*, a course that the medical students take concurrently during their first semester of clinical studies.

Class duration: 3 hours a week for 17 weeks

Course scope and sequence

Because the content of this curriculum is structured around the content medical classes that the medical students concurrently take, it is expected that the English teacher will adapt this scope and sequence to better match their particular context.. For example the teacher may rearrange, add and/or discard topics and content. Furthermore, since it is certain that the students will be assigned different medical articles than those listed in this scope and sequence, the teacher will ideally replace these medical articles with the ones that they are assigned in their medical classes and develop English learning activities for them. As such, this scope and sequence is meant to be a model rather than prescriptive.

Course scope and sequence: *Medical ESOL 1*

- See Overview for an introduction to this class.
- Materials identified with pages refer to the course textbook, *English for the Health Sciences*.
- Activities marked with an asterisk (*) are described in more detail in the preceding section, “Explanation of activities.”

Topics	Objectives	Activities and Assignments	Assessments
Week 1 •Introductions •Making small talk	•Defining goals and needs for learning English •Oral communication: Engaging in small talk •Listening: Understanding key information	•Introductions and overview of class •Needs and goals questionnaire •Writing: “What are your professional goals?" •Making small talk p. 2-3 •Role play: Doctor-patient small talk •Listening: Small talk p. 3	•Participation •Homework
Week 2 •Taking a medical history •Social-cultural Factors	•Oral communication: Taking a medical history •Listening: Understanding key information •Reading: TBD •Writing: Stating and supporting a position	•Review of students needs and goals assessment results •Asking questions for a medical history p. 4-5 •Listening: Asking questions p. 5 •Role play: Taking a medical history p. 5 •Writing: Peer error correction of week 1 writing assignment •Reading: “**Social Determinants of Health**” p. 12-13 •Writing: Guidelines for stating and supporting position in a paragraph •Writing: Take a position on the reading text	•Participation •Homework
Week 3 •Making an examination •Diabetes	•Oral communication: Taking a medical history •Oral communication: Explaining a procedure •Listening: Understanding	•Grammar: Simple present/past and present perfect •Describing pain p. 30-31 •Identifying and classifying questions around symptom* •Oral communication: Role play around describing pain	•Participation •Homework

Topics	Objectives	Activities and Assignments	Assessments
	organization and key information	•Polite structures for instructions/procedures •Role play: Explaining procedures •Listening: Making an examination p. 6-7 •Listening: Overview of type 1 diabetes* •Writing: Introducing the writing rubric •Writing: Peer/self assessments and error correction of week 2 writing assignment using the rubric	
Week 4 •Making a diagnosis •Diabetes •Effects of drugs	•Oral communication: Explaining a diagnosis •Listening: Understanding key information •Reading: Understanding purpose and organization •Reading/writing: Paraphrasing	•Explaining a diagnosis p. 8-9 •Listening: Explaining a diagnosis p. 9 •Oral communication: Role play on explaining a diagnosis p. 9 •Guidelines for paraphrasing •Reading: Abstract of "Drug effects" article* •Writing: Students paraphrase Summaries from "Drug Effects" article*	•Participation •Homework
Week 5 •Using simple language •Diabetes	•Reading: Understanding vocabulary in context •Oral communication: Using simple language. •Reading/Writing: Paraphrasing in general English •Writing: Stating and supporting a position	•Writing: Peer review of Week 4 writing assignment •Reading: Understanding technical vocabulary p. 12 •Listening: Using simple language p. 12 •Writing: Using simple language p. 12 •Grammar: Sentence fragments and dropped subjects •Grammar: Correcting sentence fragments from previous student writings •Oral communication: Role play using simple language p. 13 •Writing: “What's the most effective way to prevent diabetes?”	•Participation •Homework
Week 6 •Presenting a	•Oral communication: Using simple language	•Introduce assignment and rubric for case study oral presentation	•Oral presentation of

Topics	Objectives	Activities and Assignments	Assessments
case study •Effects of drugs	•Speaking: Presenting a case study •Reading: 1) Understanding organization 2) Making inferences 3) Reading critically	•Listening for linking structures: Case study oral presentation* •Grammar: Using linking structures for addition* Speaking: Using linking structures* •Role play: Presenting a case study p. 7 •Speaking: Student oral presentations of a case study •Reading: "Proaic Acid Pregnancy" abstract*	a case study •Participation •Homework
Week 7 •Migraines	•Reading: Understanding organization and vocabulary in context •Reading/Writing: Paraphrasing	•Grammar: Coordinators, transitions and subordinators for writing •Reading: "Migraines" article* •Reading/Writing: Paraphrase the summaries in "Migraines" article* •Grammar: Run-on errors •Writing: Error correction of run-on sentences from past writing assignments	•Participation •Homework
Week 8 •Testing and Review •		•Reading and writing tests •Review of the reading and writing tests •Mid semester grades	•Reading test 1 •Writing test 1 •Participation •Homework
Week 9 •HIV	•Listening: Understanding organization and key information •Reading/Listening: Interpreting graphs •Speaking: Presenting data	•Listening: BBC: "Is a World without Aids Possible"?* •Understanding graphs in the BBC video* •Steps in presenting data* •Listening: Rosling: "The Truth about HIV"* •Introduce data presentation assignment and rubric •Student oral presentations of data	•Oral presentations of data •Participation •Homework
Week 10	•Listening: Understanding vocabulary in context and	•Listening: "Emily Oster Flips our Thinking on AIDS"*	•Listen test 1

Topics	Objectives	Activities and Assignments	Assessments
•HIV	listening for key information •Reading/listening: Interpreting graphs •Reading: TBD	•Reading: "HIV AVG guidelines" •Listening test 1	•Participation •Homework
Week 11 •Diet •Diabetes	•Reading: Understanding key information and vocabulary in context •Listening: Understanding the organization of an explanation of a diet •Oral communication: Using simple language to explain a diet •Reading/writing: Writing a summary	•Review of listening test •Reading: "Sugar in the diabetic diet" p. 10 •Listening: A nutritionist's explanation of calories p. 10 •Oral communication: Role play explaining a diet p. 11 •Reading: Diabetes in Thailand* •Writing: Steps to writing a summary* •Reading/Writing: Students write a summary of Diabetes in Thailand*	•Participation •Homework
Week 12 •Neurology	•Oral communication: Using simple language •Reading: Understanding purpose, vocabulary in context and key information •Reading/writing: Writing a summary	•Making a psychiatric evaluation p. 36-37 •Listening: Referring to a neurologist p. 36 •Grammar: Passive voice presentation/practice p. 36-37 •Oral communication: Role play using simple language p. 37 •Writing: Peer review and error correction of student summaries •Reading: "Neuropathic itch"* •Reading/writing: Students write summaries of classifications in "Neuropathic itch"*	•Participation •Homework
Week 13 •Neurology	•Oral communication: Explaining a diagnosis •Listening: Understanding purpose,understanding key information and vocabulary in	•Listening: Results from a report p. 38 •Grammar: Modal verbs of possibility p. 38 •Oral communication: Discussion of a diagnosis p. 38 •Reading: Neurologist's report p. 38	•Participation •Homework

Topics	Objectives	Activities and Assignments	Assessments
	context •Reading: Understanding organization	•Reading: Case study p. 39 •Listening: "Gregory Petsko on the coming neurological epidemic"* •Writing: Students correct errors around passive voice from previous writing assignments	
Week 14 •Eradicating diseases	•Reading: Understanding organization and vocabulary in context. •Reading/writing: Writing a summary •Listening: Understanding organization and key information	•Listening: "How We'll Stop Polio for Good"* •Reading: "War on Malaria"* •Reading/writing: Summarizing "War on Malaria"* •Listening: "A better way to beat malaria"*	•Participation •Homework
•Week 15 •Cancer •Review for doctor-patient consultation	•Reading: TBD •Listening: Understanding organization and key information •Writing: Stating and supporting a position •Oral communication: Taking a medical history	•Writing: "Identify a cancer in which early diagnosis is very important and state your reasons why •Reading: "Targeting the ERBB family in cancer" •Preview of the medical exam role play assignment and rubric •Review for the role play assignment p. 72 •Role play: Taking a medical history p. 74 •Listening for questions p. 72 •Grammar review: Question formation p. 78/74	•Participation •Homework
Week 16		Final tests	•Reading test 2 •Writing test 2 •Listening test 2
Week 17		•Doctor-patient consultation role plays	•Doctor-patient consultation role play

Explanation of activities: *Medical ESOL 1*

The activities below are elaborations on the activities or assignments listed in the course scope and sequence for *Medical ESOL 1* above.

Activity/Material	Objectives	Instructions and Guiding Questions
Week 3 Identifying and classifying questions around symptoms (Links to Clinical Examination lecture)	Oral communication: Taking a medical history	This activity was designed and carried out as a guest lecture in the Clinical Examination class and links to the professor's lecture. Students review and translate the categories for questions from Clinical Examination • Aparición: appearance, onset • Tipo: quality (burning, sharp), characteristics • Intensidad: intensity, severity • Localización: location, region, site • Irradiaciones: radiation, movement • Evolución: evolution, progression • Fenómenos Acompañantes: associated features Students match questions to category, practice pronunciation and practice role play • Where does it hurt? • Does it go anywhere else? • Can you describe the pain? • When does it start/stop? • How often does it hurt? • Do you have any other problems related to this pain? • How long does it last? • How bad is it? • Does the pain spread anywhere else? • How long have you had this pain? • When did it start? • Is the pain constant? • Have you had the pain before? • Does anything make it better/worse?

Activity/Material	Objectives	Instructions and Guiding Questions
Week 3 Overview of diabetes 1 http://www.hospitalenglish.com/students/diabetes1.php	Listening •Understanding organization •Listening for key information.	1. Students listen first time to identify the main categories of lecture. 2. Students listen 2 more times to take notes on the key information for each category. 3. Elicit details from the students and then compare with the teacher notes.
Week 4 The abstract from "The effects of caffeine, nicotine, ethanol, and THC on exercise performance" http://www.nutritionandmetabolism.com/content/10/1/71	Reading •Understanding purpose and organization	Review vocabulary and terms • *Ergogenic – positively effects performance in intense physical exercise* • *Ergolytic – negatively effects performance in intense physical exercise* • *Caffeine* • *Nicotine* • *Ethanol* • *THC* Students identify the following parts in the abstract • Background • Previous studies • Purpose Students summarize the purpose of text in one complete sentence in general English (The authors review the effects of caffeine, nicotine, ethanol and THC on the body and performance in recreational and elite sports.) Students determine/explain the meaning of the following sections from the article. • Overview • Mechanism of action • Effects on performance • WADA status • Detection • Summary

Activity/Material	Objectives	Instructions and Guiding Questions
Week 4 Summary sections from "The effects of caffeine, nicotine, ethanol, and THC on exercise performance"	Reading •Paraphrasing a text in general English	Summaries from the “Drug effects” article 1. In pairs students read the summary on caffeine 2. In pairs students then identify key ideas from the paragraph 3. Students then read the example paraphrase in general English (written by the teacher) and determine if this paraphrase contains all the same key ideas 4. Students paraphrase the other summaries as homework
Week 6 “Case Report: Nausea, Vomiting, & Hypotension” https://www.youtube.com/watch?v=EzP7ftD2KCs	Listening •Identifying linking words in context	Listening for and using linking words to present a case study 1. Students listen to the case study presentation up to 1:20 and discuss whether the presenter communicates clearly? And why or why not? 2. Students listen a second time and take notes on words that he uses to show connections between ideas and terms. 3. Teacher presents examples and explain use of the linking words the presenter uses as well as additional ones. • as well as (2) • and (1) • or (1) • additionally (1) • in addition • furthermore • moreover 4. In pairs students are given practice case study texts and they present the information to their partner while using linking structures.
Week 6 Abstract from “Valproic Acid Monotherapy in Pregnancy and Major Congenital Malformations” (4 sections of the abstract are rearranged for the	Reading •Understanding organization of a medical research paper •Making inferences •Reading critically	1. Students label and order the following sections of the rearranged abstract • Introduction/Background • Method • Results • Conclusion/Discussion 2. Review key medical terms and vocabulary from text: Volproic acid, spina bifida, antiepileptic drugs, control group, risk, pregnancy, derive outcome, link, offspring, data set. 3. Students answer following questions

Activity/Material	Objectives	Instructions and Guiding Questions
student handout) http://www.nejm.org/doi/full/10.1056/NEJMoa0907328		• In your own words, describe the 3 different groups in the case study. • Examine the results and the conclusion. There is a point in the conclusion that seems to contradict a point in the results. Underline the contradicting point in each section. Can you explain this apparent contraction? • What people would be most affected by this study's conclusion?
Week 7 "New directions in migraine" http://www.biomedcentral.com/1741-7015/9/116	Reading •Understanding vocabulary in context •Writing •Paraphrasing more fluently with linking words Reading/Writing •Identifying key ideas of a passage and paraphrasing in general English	Students discuss the meaning of the following terms in the abstract • watershed • elucidated • lies ahead • attractive targets for drug discovery • highlight Students paraphrase the opening paragraph of the introduction • First students identify key ideas of intro paragraph • Students then rephrase these ideas in their own words • Students then paraphrase the paragraph

Week 9
BBC: Is a World without Aids Possible?
http://www.bbc.com/news/world-africa-15927836
	Listening
	•Understanding vocabulary in context and listening for key information
	•Interpreting graphs
		Student discuss the following questions
		• What is the primary means of HIV transmission in Southern Africa?
		• According to the podcast what are other effective ways of reducing HIV transmissions?
		• Explain the following terms
		  • generic version
		  • scaling back of foreign aid
		  • they cut the chances
		• What is the main idea of this podcast?

Activity/Material	Objectives	Instructions and Guiding Questions
		Students discuss the purpose of the specified graphs from the BBC video • What is the purpose of the first graph? (1:00) • What is the purpose of the second graph? (1:10) • What is the purpose of the third graph? (1:40)
Week 9 Rosling: The Truth about HIV http://www.ted.com/talks/lang/en/hans_rosling_the_truth_about_hiv.html	Speaking •Presenting data Listening •Understanding organization	Students watch first 3 minutes of video and review the steps the presenter takes in presenting his data. • Overview of graph • Defines data axis • Highlight significant data (use pointer) • Draw conclusions
Week 9 Emily Oster Flips our Thinking on AIDS http://www.ted.com/talks/emily_oster_flips_our_thinking_on_aids_in_africa	Listening •Understanding vocabulary in context •Listening for key information. •Interpreting graphs	Students watch video and discuss the following questions • What country has been most effective in reducing AIDS? • What was its strategy? • What hypothesis does the presenter introduce? • Explain and discuss the following terms from the video ◦ long term partner ◦ high risk behavior - What is an example? ◦ Incentive ◦ replicate Students examine the specified graphs and discuss their purpose in the video • What is the purpose of the first graph? (2:53) • What is the purpose of the second graph? (3:12) • What is the purpose of the third graph? (5:24) • What conclusion does the presenter draw from this data?
Week 11 “Progress in diabetes	Reading •Understanding key	Students discuss the meaning of the following vocabulary words: challenge, exacerbate, launch, campaign, awareness, overwhelmed

Activity/Material	Objectives	Instructions and Guiding Questions
control in Thailand” http://www.who.int/features/2012/story_diabetes_thailand/en/	information •Understanding vocabulary Reading/writing •Writing a summary	Students review following steps to writing a summary. 1. Read the text carefully, identifying the author's purpose. You may want to underline key phrases and write notes in the margins. 2. Identify the thesis or central idea of the text. 3. Reread the text, dividing the text into stages and labeling main ideas 4. Create an outline of central and supporting main ideas. 5. Write a draft of you summary. The thesis or main idea of the text should be stated in the beginning along with the author and title of the text. 6. Check your summary against the original. 7. Revise your summary for flow, grammar and spelling. Students write a summary of the article on diabetes in Thailand 1. In pairs students identify the main and supporting ideas of the article by completing the first 4 steps above. 2. Then each student writes a summary as a homework assignment.
Week 12 “Disease mechanisms in neuropathic itch” http://www.ncbi.nlm.nih.gov/pubmed/18461071	Reading •Understanding purpose •Understanding vocabulary in context •Understanding key information Reading/writing •Writing a summary	Students read the abstract of “Neuropathic itch” and identify the 3 main purposes of the article • *Describe the characteristics and changes of the neuronal systems* • *Classify different types of itch* • *Propose types of treatment* Students identify key terms in abstract necessary for understanding the text • CNS: central nervous system • PNS: peripheral nervous system • Neuropathic itch (see below) Students read the introduction and define the following terms according to the context. • Common itch: *has a protective function and is brought on by a chemical or mechanical stimulus.*

Activity/Material	Objectives	Instructions and Guiding Questions
		• Chronic itch: *occurs when peripheral mediators are continuously activated and the signaling system does not stop.* • Neuropathic itch: *chronic itch occurring when the nervous system is damaged and there is no skin disease or stimuli.* Students read the section on "Classification And Differential: Diagnosis Of Itch" and write a short 1 sentence summary of each class of itch that distinguishes it from the others. • *Prurigenic itch is caused by inflammation, dryness or skin damage that acts on a healthy nervous system.* • *Neurogenic itch is caused by central mechanisms and does not involve nerve damage.* • *Psychogenic itch originates from psychological disorders.* • *Neuropathic itch results from damage to the nervous system.* Students read the section on "Neuropathic Itch" and identify 2 characteristics of neuropathic itch. • *burning sensation* • *cholestasis, or an itch that is produced by a neutral stimuli*
Week 13 Gregory Petsko on the coming neurological epidemic http://www.ted.com/talks/gregory_petsko_on_the_coming_neurological_epidemic	Listening •Understanding purpose •Understanding key ideas •Understanding vocabulary in context	Students watch the video and discuss the following questions. • What is the purpose of the first 3 graphs? • What metaphor does he use to help describe the drugs that are being developed? Is it effective in explaining how they work? Why? • What connection does the presenter make between neurological diseases and cancer? • According to the presenter, what can people do to lower risk of Parkinson's? • According to the presenter, what can people do to lower risk of Alzheimer's? • What 2 main purposes does the presenter have? • Summarize the 4 steps the presenter takes in making his argument. • What do the following idioms mean? ◦ The government has dropped the ball. ◦ Use it or loose it

Activity/Material	Objectives	Instructions and Guiding Questions
Week 14 “How We'll Stop Polio for Good” http://www.ted.com/talks/bruce_aylward_how_we_ll_stop_polio	Listening •Understanding organization •Understanding key information	Students watch video and discuss the following questions. •What is the presenter's main argument? •In what 2 regions of the world is polio not yet eradicated? •What are 3 reasons why polio has been more difficult to eradicate than small pox? •What are 2 examples of innovations from the last few years that Alyward identifies as helping to stop polio? •What 3 most important things for eradicating polio does Alyward summarize at the end of end of the podcast?
Week 14 War on Malaria http://chemistryinmedicine.wordpress.com/2012/03/28/the-war-on-malaria/	Reading •Understanding organization •Understanding vocabulary in context Writing a summary	1. Elicit what students know about malaria 2. Students read the War on Malaria text. 3. Students discuss the meaning of the following vocabulary in context (trigger, sources, adequate, steady). 4. Students identify the 3 main sections of the text. 5. Students write a summary of the text.
Week 14 A better way to beat malaria http://www.msf.org/article/frontline-better-way-beat-malaria	Listening •Understanding organization •Understanding key information	Students listen to podcast and discuss the following questions • What is the main idea of this presentation? • What advantages does artesunate have? • What are the differences between how quinine and artesunate are administered? Why are these important? • Why has quinine not been replaced by artesunate? Are these valid reasons?

Course scope and sequence: *Medical ESOL 2*

- See Overview for more information on this class.
- Materials identified with pages refer to the course textbook, *English for the Health Sciences.*
- Because this part of this curriculum was not piloted, the course scope and sequence for *Medical ESOL 2* is not as fully developed as that of *Medical ESOL 1*.

Topics	Objectives	Activities and Assignments	Assessments
Week 1 •Introductions •Making small talk	•Defining goals and needs for learning English. •Oral communication: Giving advice •Listening: Understanding key information	•Introductions and overview of class •Needs and goals questionnaire •Writing: "How will English help you reach your professional goals?" •Grammar: Modals for giving advice •Mingle: Giving advice for learning English	•Participation •Homework
Week 2 •Giving advice •Head trauma •Epilepsy	•Oral communication: Giving advice •Listening: Understanding organization and key information •Reading: TBD	•Review of students needs and goals assessment results •Giving advice for stressful situations p. 16 •Listening: Advice for stressful situations p. 16 •Listening: Phone conversation p. 17 •Role play: Telephone conversations p. 17 •Writing: Peer error correction of week 1 writing assignment and introduction of the writing rubric •Reading: "EFNS guideline on status epilepticus" •Grammar: Compound nouns •Grammar: Analysis of use of compound nouns in the text	•Participation •Homework
Week 3 •Reassuring a patient's family	•Oral communication: Explaining procedures, using simple language, and explaining a medical case	•Grammar: Simple past, past cont. and past perfect p. 80-81 •Listening: A nurse-father conversation p. 18 •Using lay terms for medical terms p. 18	•Participation •Homework

member •Head trauma	•Listening: Understanding organization •Writing: Writing a report	•Role play: Explaining a medial case p. 18 •Listening: Listening to discharge instructions p. 19 •Dialogue: Nurse-patient p. 19 •Role play: Explaining discharge instructions p. 19 •Writing: Guidelines for writing an official letter •Writing: "Write a letter with hospital discharge instructions for a patient's relative" p. 19	
Week 4 •Asking questions of a family member •Allergic reactions	•Listening: Understanding key information and TBD •Reading: Understanding key information •Writing: Writing a report	•Asking questions of a family member p. 20 •Listening: Doctor-family member conversation p. 20 •Reading: "Anaphylactic shock" and "Scombroid toxicity" p. 21 •Listening: Consultation on hay fever •Writing: "Write a case study on symptoms and signs of anaphylactic shock." p. 21 (Use the physical in Ex A p. 20 as a model.)	•Participation •Homework
Week 5 •Asking questions of a family member •Respiratory conditions	•Reading: Understanding vocabulary in context •Listening: Understanding key information and TBD •Speaking: Presenting a case study •Oral communication: Eliciting information about symptoms and using simple language •Writing: Writing a report	•Reading: Identifying meaning of vocabulary from context p. 23 •Asking questions based on symptoms and signs p. 22-23 •Grammar: Modals for deduction p. 82 •Listening for questions p. 22 •Role play: Asking questions about a patient p. 22 •Discussing probability of a diagnosis p. 22-23 •Pair work: Presenting a diagnosis in simple language p. 22 •Listening: Consultation on bronchitis •Writing: "Write a case study of one of the 4 conditions." p. 23	•Participation •Homework
Week 6 •Explain a procedure •Meningitis	•Listening: Understanding key information •Oral communication: Explaining a procedure and using simple language	•Listening: Signs and symptoms p. 24 •Identifying questions p. 24 •Grammar: Phrasal verbs p. 85 •Using simple language p. 24-25	•Participation •Homework •Listening test 1

	•Reading: TBD •Speaking: Presenting a case study	•Role play: Explaining procedure to a patient •Pair work: Explaining a procedure p. 25 •Reading: "The utcome of therapies...recommendations" (epilepsy) •Listening test •Introduction to assignment and rubric for the oral presentation of a case study •Guidelines for presenting a case study	
Week 7 •Explain a procedure •Meningitis	•Speaking: Presenting a case study •Reading: Understanding organization and key information •Reading/Writing: Writing a summary	•Case study presentations •Reading: Ordering the Explanation of a procedure p. 26 •Making a diagnosis p. 26 •Reading: "Causes and treatments of bacterial meningitis" p. 26 •Writing: Review of steps to writing a summary (see week 11 *Medical ESOL 1*) •Reading/writing: Write a summary of "Causes and treatments of bacterial meningitis". p. 26	•Participation •Homework •Presentation of a case study
Week 8 •Testing and Review		•Reading and writing tests •Review on the reading and writing tests •Mid-semester grades	•Reading test 1 •Writing test 1
Week 9 •Eliciting information from a family member •Stroke	•Listening: Understanding key information •Oral interaction: Eliciting information about symptoms •Reading: TBD •Writing: Summarizing	•Identifying questions p. 44 •Using simple language p. 44 •Listening: Patient's medical record p. 44 •Role play: Taking a medical history p. 44 •Grammar: Review of passive in all tenses p. 84 •Reading: "Risk factors start in childhood and youth" (stroke) •Grammar: Analysis of the passive voice in the reading text •Reading/writing: "Write a summary of Risk factors start in	•Participation •Homework

		childhood and youth (stroke)"	
Week 10 •Explaining a procedure •Stroke	•Reading: Understanding vocabulary in context •Oral interaction: Explaining a procedure and using simple language •Listening: TBD •Writing: Writing a report	•Giving simple instructions p. 46 •Reading: Fill in the box p. 47 •Listening: Consultation on the circulatory system •Role play: Explaining purpose and procedure p. 47 •Speaking: Explaining a procedure p. 47 •Writing: "Write a report on the purpose and procedure of a piece of medical equipment." p. 47	•Participation •Homework
Week 11 •May 26-30 •Running tests •Stroke	•Reading: Understanding vocabulary in context and organization •Listening: Understanding key information •Oral communication: Explaining a procedure •Speaking: Presenting on a medical text	•Reading: EEG test p. 48 •Listening: Hospital phone call p. 48 •Understanding abbreviations p. 48 •Role play: Explaining purpose and procedure p. 49 •Reading: Ordering the steps of a procedure p. 49 •Introduction to assignment and rubric for the oral presentation review of a medical text •Guidelines for presenting a review of a medical text	•Participation •Homework
Week 12 •Prescribing mediation •Stroke	•Speaking: Presenting on a medical text •Listening: Understanding key information •Reading: Understanding key information •Oral communication: Explaining a medical case •Writing: Writing a report	•Presentations on a medical text •Role play: Explaining a medical case p. 50 •Listening: A medical case p. 50 •Reading: Use of thrombolyties p. 51 •Role play: Explaining the risks and benefits p. 51 •Writing: Write a report on the risks and benefits of a medical treatment	•Participation •Homework •Oral presentation on a medical text
Week 13 •Explaining a	•Oral communication: Explaining a procedure	•Understanding a flow chart p. 52 •Role play: Explaining a rehabilitation plan p. 52	•Participation •Homework

rehabilitation plan •Stroke	•Reading: Understanding vocabulary in context and key information •Listening: TBD •Reading/writing: Writing a summary	•Reading: Stroke rehabilitation p. 53 •Listening: Consultation on anemia •Reading/writing: Write a summary of The role of physical therapy p. 53	
•Week 14 •Explaining a rehabilitation plan •Stroke	•Oral interaction: Using simple language and explaining a procedure •Listening: TBD •Reading: TBD •Reading/writing: Writing a summary •Speaking: Presenting on a medical text	•Vocabulary for explaining rehabilitation movements p. 54 •Using simple language to describe rehabilitation movements •Role play: Using simple language to explain procedures p. 55 •Listening: My stroke of insight •Reading: Prevention: Personal choices and actions (stroke) •Reading/writing: Write a summary of Prevention: Personal choices and actions (stroke)	•Participation •Homework
Week 15 •Explaining a rehabilitation plan •Stroke	•Speaking: Presenting on a medical text •Oral interaction: TBD	•Group research and presentation projects p. 56 •Role play: Developing a rehabilitation plan p. 56 •Introduction to assignment and rubric for the doctor-patient consultation role play •Review for doctor-patient consultation role play p. 73, 75	•Participation •Homework
Week 16		Final tests	•Reading test 2 •Writing test 2 •Listening test 2
•Week 17		•Role plays	•Doctor-patient consultation role play

MATERIALS

The pilot class of *Medical ESOL 1* used four types of materials: the course textbook, medical articles, videos and recordings, and materials that I prepared specifically for the class. In this section I present the process and rationale for selecting each type of material, list the materials used, and provide resources for finding additional materials.

Oral skills	Reading and Writing skills
• *English for Health Science* (EHS) textbook • *English for Health Science* (EHS) CD • Online recordings and videos on medicine: presentations, procedures, lectures • Teacher developed materials	• Assigned medical articles from medical content classes • Authentic online medical texts • *English for Health Science* (EHS) textbook • *Oxford English for Careers: Medicine 1* (MED) textbook • *Professional English in Use: Medicine* (PEM) textbook • Teacher developed materials

See course scope and sequence to read more about how the materials were organized into the course content.

Course textbook

One of my fist steps in planning this curriculum – long before being able to carry out a needs assessment – was researching a textbook to accompany the curriculum. But after researching over 10 different ESOL textbooks that were specifically focused on medicine or the sciences, I still could not determine which book was best suited for the class. The following are some of the common problems I found in these textbooks:

- Too challenging, targeting advanced level ESL learners
- Targets doctors who are already practicing rather than medical students carrying out their course work
- Contextualized around doctors practicing in English-speaking countries such as England and the US
- Does not have well-designed communicative activities
- Has readings that are not authentic or research-based
- Has a layout that is too crowded

Despite these problems I selected 3 different ESOL medical textbooks (see below) to pilot in the class that I thought best addressed the curriculum I was to develop. Then during the first

4 weeks of piloting the class I tried each of them out at various times, making photo copies of sections or lessons which best addressed the particular task or content of my curriculum. By the 4th week it had become clear to me that *Professional English: English for Health Science (EHS)* was the best fit. This is the textbook that both *Medical ESOL 1 and 2* are framed around.

My rationale for selecting *English for Health Science* was the following:

- The content and competencies in unit 1 of EHS closely followed the class content and oral competencies in Clinical Examination.
- EHS demonstrated a good balance between all of the following 1) content vs. language focus 2) authenticity vs. level of difficulty, and 3) depth of information vs. an uncrowded layout.
- The reading texts in the other 2 textbooks 1) did not line up well with the assigned readings or reading tasks in *Pharmacology*, and 2) were not well designed for the reading/writing skills and competencies of the class.

Piloted textbooks

Milner M. (2006). *Professional English: English for Health Science.* Heinle, Cenage Learning.
Glendinning, E. H. & Howard R. (2007). *Professional English in Use: Medicine:* Cambridge University Press.
McCarter S. (2009). *Oxford English for Careers: Medicine 1.* Oxford University Press

For a review of the 3 piloted textbooks see Appendix.

Medical articles

While EHS matched up well with the oral skills and competencies in my class, it did not provide much content or instruction around reading and writing. However, by this time I had access to the medical articles in English that the students were getting assigned in *Pharmacology* and I began using these as materials in my class. These articles, ranging from 5-10 pages were very challenging, so I always developed activities around specific parts of the articles such as the abstract, conclusions, or certain sections of the articles. When there were no articles available for a particular content lesson that I was going to teach, I used authentic medical texts that I found online as materials. Based on the suggestion of one of the professors in *Pharmacology*, I searched and used articles from the World Health Organization's website (see website resources).

Below is a list of medical articles that were assigned in *Medical ESOL 1*. Ideally, the English teacher – in collaboration with the professors in the medical school – will not assign the same articles listed below, but rather the actual medical articles that the students are assigned in their Medical content classes that semester.

Assigned articles from *Pharmacology*

"New directions in migraine" http://www.biomedcentral.com/1741-7015/9/116

"Valproic Acid Monotherapy in Pregnancy and Major Congenital Malformations" http://www.nejm.org/doi/full/10.1056/NEJMoa0907328

“Disease mechanisms in neuropathic itch” http://www.ncbi.nlm.nih.gov/pubmed/18461071

“The effects of caffeine, nicotine, ethanol, and THC on exercise performance" http://www.nutritionandmetabolism.com/content/10/1/71

“Targeting the ERBB family in cancer” http://connection.ebscohost.com/c/articles/89926364/targeting-erbb-family-cancer-couples-therapy

Texts and articles form the textbook, *English for Health Sciences*

“Refined Sugar in the Diabetic Diet” p. 10

“Hemogoblin HA1C Test” p. 13

Neurologist's report p. 38

Case study p. 39

Medical articles found online

“Social Determinants of Health” http://www.euro.who.int/__data/assets/pdf_file/0005/98438/e81384.pdf

“HIV AVG guidelines” http://www.who.int/hiv/pub/guidelines/arv2013/intro/executivesummary/en/

“Progress in diabetes control in Thailand” http://www.who.int/features/2012/story_diabetes_thailand/en/

“War on Malaria” http://chemistryinmedicine.wordpress.com/2012/03/28/the-war-on-malaria/

Videos and recordings

For the listening materials, I drew from the textbook EHS and also the internet. The recordings from the textbook's CD are of doctor-patient or doctor-doctor conversations. For *Medical ESOL 1*, I searched for relevant lectures on the medical topics that connected to the medical content classes on websites such as Ted Talks, BBC and Doctors without Borders (see web resources).

Below is a list of recordings and videos that were presented in *Medical ESOL 1.* Ideally, the English teacher – in collaboration with the professors in the medical school – will present videos and recordings that correspond with the medical topics that students are studying concurrently in their Medical content classes instead of just using the resources presented here.

Online lectures and presentations

“Overview of diabetes 1” http://www.hospitalenglish.com/students/diabetes1.php

“Case report: nausea, vomiting, & hypotension” https://www.youtube.com/watch?v=EzP7ftD2KCs

"BBC: Is a World without Aids Possible?” http://www.bbc.com/news/world-africa-15927836

"Rosling: The Truth about HIV”

http://www.ted.com/talks/lang/en/hans_rosling_the_truth_about_hiv.html

“Emily Oster Flips our Thinking on AIDS”
http://www.ted.com/talks/emily_oster_flips_our_thinking_on_aids_in_africa

“Gregory Petsko on the coming neurological epidemic”
http://www.ted.com/talks/gregory_petsko_on_the_coming_neurological_epidemic

“How We'll Stop Polio for Good”
http://www.ted.com/talks/bruce_aylward_how_we_ll_stop_polio

“A better way to beat malaria”http://www.msf.org/article/frontline-better-way-beat-malaria

Medical conversation recordings from the textbook

Pages 3, 5, 6-7, 9, 10, 12, 36, 38, 72

Teacher prepared materials

I also created or adapted many of the materials myself in order to ensure that the materials supported the needs of the class. These materials included:

- Presentation and role play assignments, materials and rubrics.
- Listening, reading and writing tests.
- Writing rubrics.
- Medical articles that I adapted or reformatted, for instance by highlighting key vocabulary in bold, scrambling sections for the students to reorder correctly, or adding guiding questions (for sample reading material, see the following section *Sample Assessments, Lessons and Materials*).
- Slide presentations on medical content, grammar and vocabulary.
- Slide presentations with guiding questions that supported students in engaging and understanding the materials.
- Slide presentations and handouts of student written work - both to highlight good writing and also to provide error correction practice for the students.

Additional materials for *Medical ESOL 2*

The same types of materials used in *Medical ESOL 1* - textbook, medical articles, videos and recordings, and teacher-developed materials – will be used in *Medical ESOL 2*. However, because of the shift from a more academic focus to a more professional focus, the materials will also vary slightly from the first semester class. The change will only effect the listening and writing tasks assessments.

The listening competencies in Medical ESOL 2 focus on medical consultations rather than on medical lectures, which means that the listening materials and assessments will need to be drawn from different sources. The Tokyo Medical University has a website on English for medical purposes (see web resources), and among other resources, has over 10 recordings of authentic doctor-patient consultations. Four of these recordings are included in the

Medical ESOL 2 course and sequence, and it is suggested that the listening tests also draw on these recorded consultations.

There is also an additional writing sub-competency in *Medical ESOL 2*: *Write a medical report.* Four types of medical reports are introduced in the scope and sequence: 1) hospital discharge instructions, 2) a case study, 3) a procedural explanation and 4) a report on a medical condition. Support for teaching these genres can be found at the following resources: The Royal Children's Hospital in Melbourne, Med Scape, and the Journal of Medical Case Reports. (See Web resources.)

SAMPLE ASSESSMENTS, LESSONS and MATERIALS

The materials included in this section were developed for the pilot class *Medical ESOL 1.* There is a sample assessment for each of the five major competencies. Then a sample lesson plan is included to give a more vivid picture of how this curriculum can be carried out in class. Finally, a sample material is included to show how the teacher can take a medical article and create it into a language learning material and activity.

Doctor-patient consultation role play assignment

In this graded role play, you will engage in 2 doctor-patient consultation role plays. The purpose of this role play assignment is for you to demonstrate your ability to carry out a doctor/patient medical consultation in English. You will be expected to do the following.

- Engage in small talk
- Take a basic medical history
- Explain procedures and directions for an examination
- Explain a treatment

Overview of the role play

- You will take the role of both a doctor and a patient in the 2 role plays and you will be paired with a different student for each role play.
- Each role play will last between 8-12 minutes.
- The role play will be evaluated by the teacher using the attached rubric.

Role play format

1. The doctor and patient will engage in small talk. (30 seconds – 1 minute)
2. The doctor will take a medical history. (5-7 minutes)
3. The doctor will explain or direct 5 procedures for making an examination. (1-2 minutes)
4. The doctor will explain a treatment. (1-2 minutes)

Instructions

Small talk: To start the medical consultation, the doctor is responsible for engaging the patient in 30 seconds to 1 minute of small talk to help the patient feel more comfortable. The doctor is also responsible for putting the patient at ease throughout the consultation.

Medical history: The doctor will carry out a medical history of a patient by filling out a form that they get from the teacher.

Key features

- The patient is given a role card that lists symptoms and other “facts” about their role.
- For any information that is not stated on their role card, the patient will provide their own real information.
- The doctor will ask the patient appropriate questions in order to fill out the patient history form.
- The doctor should use correct question formation and clearly indicate past, present or continuous states.
- The doctor can take notes on the medical form in either Spanish or English.
- If the patient does not understand a question, the doctor must repeat the question more slowly or reframe the question so that the patient understands.

- If the doctor doesn't understand the patient, the doctor must ask clarification questions.
- The teacher will only intervene if there is a complete breakdown in communication.
- After the medical history, the teacher will ask the doctor questions to determine if they understood and noted the correct information.

Explaining procedures and directions for an examination: The doctor will be given an examination task and 5 simple procedures that they must direct the patient to carry out or explain that they are going to carry out. The doctor must direct the patient by using structures that are polite and appropriate for giving instructions and explaining procedures.

Explaining a treatment: In the doctor-patient consultation role play, the doctor will explain a good diet for a patient with diabetes.

Key features

- The doctor's explanation will include information about a good diet from the attached handout.
- The doctor will check for understanding at least twice during their explanation.
- The patient will ask 2 questions after the explanation and the doctor will answer the questions.

Evaluation: You will be evaluated on the following.

Content and organization

- The doctor and patient carry out all of the required tasks.
- The doctor organizes the tasks well.
- The doctor makes good transitions between ideas and questions.

Clarity of content

- The doctor's explanations are clear, simple and stated in general language.
- The doctor effectively checks for understanding.
- The doctor answers patient's questions with appropriate and accurate information.
- The patient asks clear questions.

Clarity of language

- The doctor asks effective questions that indicate present, past or continuous actions or states.
- The doctor uses correct vocabulary.
- The doctor uses correct pronunciation.

Comprehension and interaction

- The doctor and patient demonstrate understanding through their interactions.
- The doctor and patient ask for clarification when there are misunderstandings
- The doctor makes the patient feel comfortable and at ease.
- The doctor and patient make good eye contact.

Doctor-patient consultation role play rubric

	Very good 1.75 points	Satisfactory/Pass 1.25 points	Needs improvement/Fail .75 point
Content and organization	• Organizes well and carries out fully all the tasks. • Uses a variety of structures that are very effective in connecting ideas and directing the consultation.	• Organizes and carries out all the tasks, but some may not be complete. • Uses some structures that are mostly effective in connecting ideas and directing the consultation.	• Does not effectively carry out all the tasks • Structures for connecting ideas and directing the consultation are not used effectively.
Comments			
Clarity of content	• Consistently explains information in simple and general language. • Effectively checks for understanding. • Provides accurate information.	• Mostly explains information in simple and general language. but may have difficulties with some explanations. • Checks for understanding, but not always at the most appropriate times. • Provides accurate information though there may be some inaccuracies.	• Does not explain information in simple and general language. • Does not effectively check for understanding. • Provides much information that is inaccurate.
Comments			
Clarity of language	• Uses grammar and vocabulary effectively to clearly communicate. • Uses correct pronunciation and stress though there may be minor errors.	• Mostly communicates clearly though their may be some errors in grammar and vocabulary, • Mostly uses correct pronunciation and stress though there are some errors, but they do not limit communication.	• Does not communicate clearly because of errors with grammar and vocabulary. • Makes many errors with pronunciation and stress though that limit communication.
Comments			
Comprehension and interaction	• Demonstrates understanding within the interaction and/or asks effective clarification questions when there are misunderstandings. • (The doctor) effectively uses small talk to make the patient feel comfortable. • Consistently makes eye contact and only briefly needs to refer to the assignment notes.	• Demonstrates some misunderstanding of the interaction and/or does not effectively ask effective clarification questions when there are misunderstandings. • (The doctor) uses some small talk to make the patient feel comfortable though it is not always effective. • Mostly makes eye contact, but often needs to refer to the assignment notes.	• Demonstrates many misunderstanding of the interaction and does not effectively ask effective clarification questions when there are misunderstandings. • (The doctor) does not use small talk effectively to make the patient feel comfortable. • Does not make effective eye contact and/or refers to the assignment notes so frequently that it weakens the interaction.
Comments			

Final Score _____

Medical History Form

Name _____ DOB _____ R.U.T. ID _____

Chief Complaint

History of Present Condition

Onset and timing

Other symptoms

Past Medical History

Family History

Medication

Social History

Occupation _____ Marital Status _____

Smoking History _____ Start _____ Quit _____

Drinking History _____ Quantity _____

Patient roles

Case 1: Carpal Tunnel	**Case 2: Diabetes**
Primary symptom: Tingling in fingers Other symptoms • Weakness of fingers • Difficulty buttoning clothes • Sometimes pain in forearm Additional information about symptoms • Symptoms began 2 months ago • Only at night Medical history • Had similar symptoms 2 years ago, but disappeared Medication • Takes aspirin when symptoms are bad Family history: None	Primary symptom: Always feels tired Other symptoms • Often thirsty • Sometimes feels depressed Additional information about symptoms • Symptoms began 6 months ago • Feels most thirsty after eating • Gets very tired after playing sports Medical history • None Medication • None Family history • Grandfather and uncle had diabetes
Case 3: Bronchitis	**Case 4: Back pain**
Primary symptom: Cough Other symptoms • Sore throat • Always feels tired • Cough is dry Additional information about symptoms • Symptoms began 3 weeks ago • Cough is worse at night Medical history • Has had bronchitis 2 times before Family history: None Medication • Takes aspirin	Primary symptom: Pain in the lower back Other symptoms • Intense and sporadic pain in groin • Has difficulty sleeping Additional information about symptoms • Hurts when rising from a chair • Symptoms began 10 years ago Medical history • Diagnosed with tendinitis in elbow 5 years ago Family history: None Medication • Takes ibuprofen and marijuana for pain

Explaining a procedure of an examination

In the doctor-patient consultation role play, the doctor will carry out one of the following examinations. To carry out the examination, the doctor will explain or direct 5 procedures. Below are possible procedures, but the doctor can also give other types of explanations or directions as long they total at least 5. You must rephrase the language of the procedures that are listed in this handout.

Examination 1: Taking the patient's temperature

Procedures

- General explanation
- Thermostat in patient's mouth
- Thermostat is in mouth for 10 seconds
- Patient holds thermostat
- Doctor takes thermostat

Examination 2: Taking the patient's blood pressure

Procedures

- General explanation
- Roll up sleeve
- Blood pressure cuff on patient's arm
- Blood pressure cuff on arm for 10 seconds
- Doctor takes blood pressure cuff

Examination 3: Getting a urine sample

Procedures

- General explanation
- Directions to bathroom
- Give cup
- Instructions to fill cup to line
- Return cup to doctor

Examination 4: Measuring height and weight

Procedures

- General explanation
- Stand up
- On scale
- Off scale
- Go to wall
- Stand straight

Examination 5: Taking blood

Procedures

- General explanation
- Explain the pain
- Roll up sleeve
- Give warning before injection
- Reassure patient

Examination 6: Checking shoulder mobility

Procedures

- General explanation
- Stand up
- Both arms up
- Both arms down
- Both arms rotate

Explaining a diet

In the doctor-patient consultation role play, the doctor will explain a good diet for a patient with diabetes.

Directions

- The doctor's explanation will include the accurate information about the topics below.
- The doctor will check for understanding at least twice during their explanation.
- The patient will ask 2 questions after the explanation and the doctor will answer the questions.

Key information

- General introduction of a good diet for diabetes
- Sugar intake
- Calories
- Balanced diet
- Unrefined carbohydrates
- Proteins
- Regular meals
- Junk food

Case study presentation assignment

In groups of 3-5, you will present the same case study that you prepared in your class of Clinical Examination. Each person in the group will present one of the following sections in this oral presentation.

1. Present history and physical examination
2. Present principal symptoms/signs and Investigations/results
3. Present the diagnosis
4. Summarize/Answer questions

Evaluation and Rationale

Each member of the group will be evaluated based on the following 4 skills for the following reasons.

- **Explanation in simple terms:** A doctor must be able to communicate effectively with patients by explaining technical terms and procedures in general English so that patients fully understand their condition such as the signs, diagnosis and treatment.

- **Use of transition structures:** A doctor can not simply list the characteristics or points of a condition in rapid fire. They must use transition structures (such as first, then, in addition, also, finally) to help the patient understand the sequence and connection between points.

- **Non-verbal communication:** A doctor must make excellent use of voice, eye contact and gestures to help the patient understand.

- **Pronunciation:** Correct pronunciation and stress – especially with medical terms - is also very important for a patient to fully understand a doctor.

Case study presentation rubric

	Very good 1.75 points	Satisfactory/Pass 1.25 points	Needs improvement/Fail .75 point
Organization	• Consistently explains technical language in simple terms when appropriate.	• Explains technical language in simple terms but may not explain it when appropriate or may have difficulties with some explanations.	• Does not effectively explain technical language in simple terms.
Comments			
Structures for making transitions	• Uses a variety of transitions that are very effective in connecting ideas. • Transitions are used both appropriately and correctly though there may be minor errors.	• Uses some transitions that are effective in connecting ideas. • Transitions are mostly used appropriately and correctly though there may be errors.	• Transitions are rarely or not used at all. • Transitions are mostly used inappropriately or incorrectly.
Comments			
Non-verbal communication	• The speaker makes very good use of voice, eye contact and gestures which makes their communication much more effective.	• The speaker makes mostly effective use of voice, eye contact and gestures which supports their communication.	• The speaker does not make effective use of voice, eye contact and gestures which limits their communication.
Comments			
Pronunciation	• Uses correct pronunciation and stress though there may be minor errors.	• Mostly uses correct pronunciation and stress though there are some errors, but they do not limit communication.	• Errors with pronunciation and stress limit communication.
Comments			

Final Score _____

Sample reading test

Directions: Briefly read each text and then answer the questions that follow.

Grading: Multiple choice questions are worth 1 point, and sentence response questions are worth 2 points.

Text 1

First Section

The use of valproic acid in the first trimester of pregnancy is associated with an increased risk of spina bifida, but data on the risks of other congenital malformations are limited.

Second Section

Exposure to valproic acid monotherapy was recorded for a total of 180 registrations, with 122 registrations in the case group, 45 in control group 1, and 13 in control group 2. As compared with no use of an antiepileptic drug during the first trimester (control group 1), use of valproic acid monotherapy was associated with significantly **increased** risks for 6 of the 14 malformations under consideration; the adjusted **odds** ratios were as follows: spina bifida, 12.7 (95% confidence interval [CI], 7.7 to 20.7); atrial septal defect, 2.5 (95% CI, 1.4 to 4.4); cleft palate, 5.2 (95% CI, 2.8 to 9.9); hypospadias, 4.8 (95% CI, 2.9 to 8.1); polydactyly, 2.2 (95% CI, 1.0 to 4.5); and craniosynostosis, 6.8 (95% CI, 1.8 to 18.8). Results for exposure to valproic acid were similar to results for exposure to other antiepileptic drugs.

Questions for Text 1

1. What can you infer from the first section?

A. There is limited information on other congenital malformations except for spina bifida.

B. There is little evidence of a connection between valproic acid and other congenital malformations besides spinal bifida.

C. The risk of other congential malformation besides spina bifida are limited by the use of valproic acid.

D. Valproic acid causes the congential malformation spina bifida.

2. What is the purpose of the second section?

A. Present the background of the research B. Present the methods of the research

C. Present the results of the research D. Present the conclusion of the research

3. Based on this text, what can you infer about Valproic Acid?

A. It is an antiepileptic drug B. It is a drug for treating malformations.

C. Pregnant women in the first trimester should avoid it.

D. Both A and B E. Both A and C F. A , B and C

4. In this context, what word can replace **odds** in the text?

A. risk B. danger C. malformation D. outcome

5. In this context, what word can replace **increased** in the text?

A. grow B. dangerous C. higher D. smaller

Text 2

In summary, caffeine, even at physiological doses (3–6 mg/kg), is a proven ergogenic aid and as such – in most exercise situations, especially in endurance-type events – clearly work-enhancing [26]. It most likely has a peripheral effect targeting skeletal muscle metabolism as well as a central effect targeting the brain to **enhance** performance, especially during endurance events (see Table 1). Also for anaerobic tasks, the effect of caffeine on the CNS might be most relevant. Further, post-exercise caffeine **intake** seems to benefit recovery be increasing rates of glycogen resynthesis.

Questions for Text 2

1. What main idea is this text organized around?

A. The results from the study B. The effects of caffeine

C. The methods of the study D. The reasons for using caffeine

2. Which of the following is an example of an endurance-type event?

A. Running (sprinting) 20 meters B. Doing 50 push ups

C. Running 1 km D. All of the above

3. According to this text, what can you infer that caffeine improves?

A. Aerobic exercise B. Anaerobic exercise C. Recuperating after exercise

D. Both A and C E. Both B and C F. A, B and C

4. In this context, what word can replace **intake** in the text?

A. consumption B. supplements C. products D. provides

5. In this context, what word can replace **enhance** in the text?

A. delay B. weaken C. improve D. aim

6. In 1 sentence, answer the following question. Based on this text, should caffeine be put on a prohibited list for competitive sports? Why or why not?

_____

_____

Text 3

The world statistics presented in this chapter clearly demonstrate the epidemic nature of diabetes. No fireworks, just a simple, silent but deadly epidemic. Corrective measures that **enable** diabetics around the world to live fulfilled, productive lives are critical to achieving the essential goal of controlling diabetes in the world health agenda. Raising the awareness of the general population to the prevalence of the disease is an important aspect of controlling the rampant epidemic. Enhanced surveillance, raising standards of diagnosis and treatment that can **afford** rapid detection and corrective measures, can ensure that the disease is either prevented (or at least delayed) in individuals with impaired glucose tolerance. Widespread lifestyle-directed counseling and availability of medications and preparations that control blood sugar levels are critical ingredients to this process.

1. What is the purpose of this text?

A. Present the background of the study
B. Present the conclusion of the study
C. Present the methods of the study
D. Present the results of the study

2. What main idea is this text organized around?

A. The symptoms of diabetes
B. The social consequences of diabetes
C. Ways to prevent and control diabetes
D. Ways to lower glucose in the blood

3. Which idea is not presented in this text?

A. We need to educate people about diabetes.

B. People need to change the way they live their lives.

C. We need to help people who already suffer from diabetes.

D. We need to produce better medicines for diabetes.

4. Which of the following is used to explain “enhanced surveillance” in the text.

A. Raising standards of diagnosis and treatment that can afford rapid detection and corrective measures

B. Ensuring that the disease is either prevented (or at least delayed) in individuals with

impaired glucose tolerance

C. Widespread lifestyle-directed counseling

D. Raising the awareness of the general population to the prevalence of the disease

5. In this context, what word can replace **enable** in the text?

A. help B. prevent C. lead to D. take

6. In this context, what word can replace **afford** in the text?

A. help B. prevent C. lead to D. take

7. In 1 sentence write one possible example of "widespread lifestyle-directed counseling" that would be appropriate for this text?

_____

_____

Vocabulary Section

Directions: Fill in the blanks with the vocabulary words below. Every vocabulary word will not be used, and no vocabulary word will be used more than once.

Grading: Each blank is worth .5 points.

onset	lacks	awareness	outcomes
factor	develop	risk	linked
disparity	disorders	pregnancy	offspring

TOBACCO

Despite widespread _____ that smoking is bad for both mother and developing fetus, in 2007, an estimated 16.4 percent of pregnant American women were current tobacco smokers.

Smoking is a key _____ that increases a woman's _____ of ectopic pregnancy and placenta previa, both of which increase the odds of maternal mortality. Women who smoke during pregnancy are somewhat less likely to _____ preeclampsia than those who do not smoke.

Tobacco use has also been _____ to low birth weight and _____

complications, including prematurity, placental abruption, and intrauterine death. Low birth weight suggests that the fetus _____ important nutrients and oxygen, which are important for optimal brain growth and neuronal development. Other negative _____ of maternal tobacco use include a greater likelihood of sudden infant death syndrome.

More studies are needed to identify additional _____ that are more prevalent in the _____ of pregnant smokers.

Text adapted from

“Prenatal Tobacco, Marijuana, Stimulant, and Opiate Exposure: Outcomes and Practice Implications”

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3188826/

Sample writing test

Writing assignment 1: Paraphrasing

Directions:

1. Identify the key ideas in the paragraph below.
2. Write a 50-100 word condensed paraphrase of this paragraph in general English.
3. Use subordinators and transitions correctly to make your writing more fluent.

Time Limit
40 minutes

Evaluation
Your paragraph will be evaluated according to the writing rubric that was handed out in class. Specific expectations of this assignment are indicated below.

Categories	**Specific expectations**
Content	50-100 word paragraph that includes key ideas
Organization and clarity	Fluency, including correct use of subordinators and transitions
Vocabulary	Skill in rephrasing the text into your own words and general English.
Grammar and conventions	

Diabetes Text

The world statistics presented in this chapter clearly demonstrate the epidemic nature of diabetes. No fireworks, just a simple, silent but deadly epidemic. Corrective measures that enable diabetics around the world live fulfilled, productive lives are critical to achieving the essential goal of controlling diabetes in the world health agenda. Raising the awareness of the general population to the prevalence of the disease is an important aspect of controlling the rampant epidemic. Enhanced surveillance, raising standards of diagnosis and treatment that can afford rapid detection and corrective measures, can ensure that the disease is either prevented (or at least delayed) in individuals with impaired glucose tolerance. Widespread lifestyle-directed counseling and availability of medications and preparations that control blood sugar levels are critical ingredients to this process.

http://www.hope4diabetes.info/general-information/diabetes-a-worldwide-epidemic.html

Writing assignment 2: Stating and supporting a position

Directions: Identify one action that you think society, doctors, or patients can take that that will help prevent diabetes. State this one action and explain your reasons in a 100-200 word paragraph.

Time Limit
20 minutes

Evaluation
Your paragraph will be evaluated according to the writing rubric that was handed out in class. Specific expectations of this assignment are indicated below.

Categories	**Specific expectations**
Content	100-200 word paragraph that states an action and your reasons in support of it.
Organization and clarity	Fluency, including correct use of subordinators and transitions
Vocabulary	
Grammar and conventions	

Sample listening test

http://www.ted.com/talks/hans_rosling_the_truth_about_hiv

Directions: Circle the best answer for each question. Each question has only 1 correct answer.

1. Which information is the graph meant to show?

a. The spread of the HIV virus
b. The mortality rate of the HIV virus
c. The causes of the HIV virus
d. The income of different countries

2. Which data does the graph not represent by country? _____

a. Average income per person
b. Percentage of people who have died from HIV
c. Total number of people with HIV
d. Percentage of people infected with HIV

3. What do the colors of the bubbles represent? _____

a. Countries b. Continents c. Income level d. HIV rates

4. What does the size of the bubbles represent? _____

a. The number of people with HIV
b. Number of people who have died from HIV
c. The rates of HIV infection
d. Amount of money funding HIV prevention

5. According to Rosling which country had the most people infected with HIV in 1983? ____

a. United States b. Africa c. South Africa d. Uganda

6. Which continent has the countries with the highest rates of HIV infection? _____

a. North America b. South America c. Asia d. Africa

7. Rosling claims that “In the last two to three years, we have reached a steady state of HIV epidemic in the world.” What does he mean? _____

a. HIV infection rates are no longer changing
b. HIV infection rates are increasing
c. HIV infection rates are decreasing
d. Things are getting better

8. Rosling's data shows that in Botswana there has been only a small decrease in HIV infection rates while in other African countries there have been large decreases in HIV infections. What explanation does he give? _____

a. Botswana is a poorer country.

b. Botswana has worse medical care.

c. Botswana has been more effective in treating people with HIV.

d. Botswana has been less effective in treating people with HIV.

9. Which of the following is a conclusion that can be drawn from the data about Botswana and other countries in Africa? _____

a. Treatment is the most effective way to decrease HIV infection rates.

b. Preventing HIV transmission is the most effective way to decrease HIV infection rates.

c. African countries need more drugs to decrease HIV infection rates.

d. More family planning is needed to decrease HIV infection rates.

10. What point does Rosling make about Africa?

a. Africa has high rates of HIV infection.

b. Some African countries have high rates of HIV infection and other African countries have low rates of HIV infection.

c. All the countries of Africa have had similar experiences with HIV.

Listening 2

http://www.hospitalenglish.com/teachers/diabetes2.php

Directions: Circle the best answer for each question. Each question has only 1 correct answer.

1. According to the lecture, what percentage of people with diabetes have type 2?

   A. 10% B. 19% C. 50% D. 90%

2. According to the lecture, why does Glucose collect in the blood stream?

   A. The cells of the body become resistant to the insulin produced by the pancreas

   B. The amount of insulin produced by the pancreas is not enough.

   C. Either A or B

   D. Both A and B

3. Which population is not identified in the lecture as a population at greater risk of developing type 2 diabetes type?

   A. The obese B. Old people C. People from lower socio-economical status

   D. People who have a family history of diabetes 2

4. According to the lecture, which of the following problems is <u>not</u> identified as possibly developing from uncontrolled blood glucose levels?

   A. kidney damage B. circulatory problems C. Heart failure D. retinopathy

5. According to the lecture, what is a consequence of retinopathy?

   A. Damage to the small blood vessels of the retina. B. Blurred vision

   C. The function of the kidney declines. D. All of the above

6. According to the lecture, what causes circulatory problems and nerve damage in diabetes patients?

   A. The arteries harden B. Ulcers

   C. Infections D. Kidney failure

7. What does the presenter when he states that the effects of diabetes on the body are “compounding”?

   A. The different effects aggravate each other.

   B. The different effects come together to form one effect.

   C. The effects cause the patient of diabetes to gain weight.

   D. The effects can lead to an immediate diagnosis.

8. What does the presenter mean by “life-threatening problems”?

   A. Problems that can cause a person to die

   B. Problems that last for a person's entire life

   C. Problems that can be treated for life

   D. Problems that are not very serious

9. What 2 important interventions for diabetes are identified in the lecture?
   A. Diagnose the condition as soon as possible
   B. Control the glucose sugar levels as soon as possible
   C. Both A and B
   D. None of the above

10. Which of the following best explains the purpose of this lecture.
   A. To give an overview of diabetes 2 and explain ways to prevent or control it
   B. To give an overview of diabetes 2 and explain some common consequences
   C. To identify the people who are most at risk of developing diabetes 2
   D. To explain measures that people can take to prevent or control diabetes 2

Sample lesson plan: Presenting a case study – Week 6

Lesson objectives

Speaking: Students will be able explain medical language in simple language by using linking words for more effective communication when presenting a case study.

Reading: Students will be able to
- Understand organization of a medical research paper
- Understand key ideas
- Read critically

Materials

- presentation rubric (see assessments)
- Video of a case study presentation https://www.youtube.com/watch?v=EzP7ftD2KCs
- EHS textbook
- Case study texts from Clinical Examination
- Proaic Acid Pregnancy abstract that has been reordered (see following section)

Lesson context and rationale

The primary goal of this lesson is to link the instruction to a key assignment in the students' Clinical Examination class: the students delivering an oral presentation (in Spanish) of a case study. Gustavo, their professor, has identified the communication of technical terms into general English as an important skill that medical students must learn. In the case of his case study presentation assignment, it's entirely appropriate (for this genre) that the students present the information in abbreviated form, using technical terms and without using linking words or other devises to show connections. But Gustavo and I also recognize that students need to present this same information to patients that will better understand the information in general terms and with the help of linking words and structures.

In the week preceding this lesson, students practiced strategies for communicating technical language in general terms. For this week they will practice using linking words and structures.

Day 1

Collect and review writing HW

Introducing the case study oral presentation assignment and rubric
Students review the assignment and rubric

Listening: Identifying linking words in context: A case study presentation
https://www.youtube.com/watch?v=EzP7ftD2KCs

1. Introduce the video as a case study oral presentation and ask the students to evaluate the presenter's presentation skills. *Does the presenter communicate clearly? Why or*

why not?

2. Students listen to the podcast up to 1:20 and discuss the questions in pairs
3. Then review student opinions and comments
4. Ask students what words he used to show connections between ideas and terms
5. Students listen again to the podcast and take notes on the words the presenter uses to show connections between ideas and terms.
6. Draw attention to the following linking words and elicit why they are effective for better communication and explain that they are used to include additional similar information
   as well as (2) *or*
   and *in addition*
7. Elicit/present additional linking words for adding information
   additionally *furthermore* *moreover*
8. Elicit from students the 2 different ways of using these linking words and provide examples in context
   linking between sentences *linking between phrases or words*
   The patient has difficulties with breathing
   The patient has difficulties with walking

Speaking: Using linking words in context

1. The teacher models how to orally present a case study by using linking words.
2. In pairs students practicing reading the case study to a partner using linking words.

<u>Day 2</u>

Translating technical language of a case study into general English

1. Students are put into groups of 4-5 and each group assigned a medical case Ex. D p. EHS
2. Students identify key ideas for each section of the case study (see presentations assignment)
3. Students then discuss ways to translate the medical terms into more general English
4. As a whole class assignment, the teacher elicits different ways that the different groups translated technical terms into more general English

Role play: Presenting a case study using linking words

1. Teacher reviews the linking words identified from earlier activity and instructs the students to focus on using them in their role plays
2. Students role play delivering the case study in pairs in their own group
3. Then as a mingle, students role play delivering their case study to another student from a different group

Grammar: Structures and phrases for linking ideas

1. Referring to the different sections of the case study oral presentation, elicit from the class structures that show you are linking to a new topic
2. Students listen to the same podcast from the earlier activity and note the 3 structures that the presenter uses to show he is linking to a new topic (see top 3 listed below)
3. Present the following structures as well
   - *Today we are going to*
   - *In today's case*

- *Now let's get on with the case study*
- *Now I'm going to talk about...*
- *In terms of....*
- *As far as the.....*
- *To summarize...*
- *So...*

HW: Prepare presentations

Day 3

Assessment: Case study presentations

1. In groups students deliver oral presentations of the case study they delivered in Clinical Examination.
2. Students in the audience are all assigned a specific student in the presenting group to evaluate according to their individual rubric
3. The teacher also evaluates each member of the group according to the rubric

Reading: Understanding organization: Volproic Acid in Pregnancy abstract

1. Students label and order the following sections of the abstract
   - Introduction/Background
   - Method
   - Results
   - Conclusion/Discussion
2. Elicit from students the key medical terms from the background section of text
3. Elicit from students the meaning of the following medical terms from the abstract

   Volproic acid
   Spina bifida
   antiepileptic drugs
   control group - receive either *no* treatment or a *standard* treatment.
4. Preview vocabulary from text

   risk
   pregnancy
   derive
   outcome
   link
   offspring
   data set

Critical reading and understand key information: Proaic Acid Pregnancy abstract (HW)

HW: Read the abstract on Volproic Acid in Pregnancy and answer the following questions

- In your own words, describe the 3 different groups in the case study.
- Examine the results and the conclusion. There is a point in the conclusion that seems to contradict a point in the results. Underline the contradicting point in each section. Can you explain this apparent contraction?
- What people would be most effected by this study's conclusion?

Sample reading material on a medical article

Valproic Acid Monotherapy in Pregnancy and Major Congenital Malformations
http://www.nejm.org/doi/full/10.1056/NEJMoa0907328

Janneke Jentink, M.Sc., Maria A. Loane, M.Sc., Helen Dolk, Dr.P.H., Ingeborg Barisic, Dr.P.H., Ester Garne, M.D., Joan K. Morris, Ph.D., and Lolkje T.W. de Jong-van den Berg, Ph.D.

Directions: Label and correctly order the 4 sections of this research abstract (1-4).

Conclusion Background Results Methods

Section _____ Order _____

Exposure to valproic acid monotherapy was recorded for a total of 180 registrations, with 122 registrations in the case group, 45 in control group 1, and 13 in control group 2. As compared with no use of an antiepileptic drug during the first trimester (control group 1), use of valproic acid monotherapy was associated with significantly increased risks for 6 of the 14 malformations under consideration; the adjusted odds ratios were as follows: spina bifida, 12.7 (95% confidence interval [CI], 7.7 to 20.7); atrial septal defect, 2.5 (95% CI, 1.4 to 4.4); cleft palate, 5.2 (95% CI, 2.8 to 9.9); hypospadias, 4.8 (95% CI, 2.9 to 8.1); polydactyly, 2.2 (95% CI, 1.0 to 4.5); and craniosynostosis, 6.8 (95% CI, 1.8 to 18.8). Results for exposure to valproic acid were similar to results for exposure to other antiepileptic drugs.

Section _____ Order _____

We first combined data from eight published cohort studies (1565 pregnancies in which the women were exposed to valproic acid, among which 118 major malformations were observed) and identified 14 malformations that were significantly more common among the offspring of women who had received valproic acid during the first trimester. We then assessed the associations between use of valproic acid during the first trimester and these 14 malformations by performing a case–control study with the use of the European Surveillance of Congenital Anomalies (EUROCAT) antiepileptic-study database, which is derived from population-based congenital-anomaly registries. Registrations (i.e., pregnancy outcomes with malformations included in EUROCAT) with any of these 14 malformations were compared with two control groups, one consisting of infants with malformations not previously linked to valproic acid use (control group 1), and one consisting of infants with chromosomal abnormalities (control group 2). The data set included 98,075 live births, stillbirths, or terminations with malformations among 3.8 million births in 14 European countries from 1995 through 2005.

Section _____ Order _____

The use of valproic acid monotherapy in the first trimester was associated with significantly increased risks of several congenital malformations, as compared with no use of antiepileptic drugs or with use of other antiepileptic drugs.

Section _____ Order _____

The use of valproic acid in the first trimester of pregnancy is associated with an increased risk of spina bifida, but data on the risks of other congenital malformations are limited.

Questions

- In your own words, describe the 3 different groups in the case study.
- Examine the results and the conclusion. There is a point in the conclusion that seems to contradict a point in the results. Underline the contradicting point in each section. Can you explain this apparent contraction?
- What people would be most effected by this study's conclusion?

EVALUATION

I carried out an evaluation of this curriculum during the last couple weeks of the pilot class. The first part of this section focuses on student feedback on this class. The second part focuses on my own personal reflections .

Student evaluations of the class

To get feedback from the students on this class, I created a 2-page questionnaire that elicited student views on the following aspects of the class:

- Course effectiveness in teaching the stated competencies
- Relevancy and usefulness of the class assessments and homework
- Effectiveness of the textbook, *English for the Health Sciences*
- Effectiveness of the teacher
- Class effectiveness and challenges in comparison to the standard English classes
- Student opinions on what they liked best about the class and what could be improved

The students completed the evaluations anonymously after having completed the class. In tabulating the results, I included all aspects except for the effectiveness of the teacher because it was not relevant to this curriculum.

See Appendix for both the student evaluation questionnaire and my tabulation of their results.

Interpretation of the Results

Below are my interpretations of the student evaluations.

Course effectiveness in teaching the stated competencies

The results suggest that overall the students perceived the class to be between good and excellent in improving their ability to carry out all of the stated competencies of the class.

Overall the students identified *reading and understanding a medical text* as the competency that the class most effectively taught. It's important to note that this competency was also deemed most important in the Needs Assessment. Furthermore, it suggests that students especially valued the features of this curriculum that focused on reading, such as using authentic medical articles from the students' content classes, were valued by the students.

Overall the students identified *delivering a presentation* as the competency that the class taught least effectively. This feedback is not all that surprising as significantly less time was given to preparing oral presentations than was given to the other competencies. It raises the question as to whether more time should be devoted to delivering presentations at the expense of taking time away from the other competencies.

Relevancy and usefulness of the class assessments and homework

The results suggest that overall the students perceived all of the class assessments to be useful and relevant, with little difference between the highest ranked and the lowest ranked assessment.

The assessments ranked as most useful and relevant were the doctor-patient role play as well as the reading, writing and listening tests. The lowest ranked assessments were the 2 oral presentation assessments. Again this feedback may be based in the fact that such little time was devoted to these competencies.

Effectiveness of the textbook, *English for the Health Sciences*

Overwhelmingly, the students stated that the textbook was relevant, challenging and effective. Many students said they liked the oral practice exercises.

Class effectiveness and challenges in comparison to the standard English classes

Overall the students clearly ranked this pilot class as more effective than the standard English classes at UT in terms of their learning of English, their level of motivation, and the relevancy and effectiveness of the materials. They were also near unanimous in agreeing that the class was more difficult and that it assigned more homework than the other English classes at UT.

Student opinions on what they liked best about the class and what could be improved

The most common response from the students on what they liked best about the class was the medical content and topics. The most common response to what they thought could be improved about the class was to assign less homework.

Personal Reflections

Challenges

In the process of developing and teaching this content-based ESOL class for medical students, I both faced personal challenges and also came to better understand the larger challenges that teachers and universities attempting to implement such a program may face. Some of the challenges I personally faced included the obstacles I encountered seeking access to the medical school (see *Situational Analysis*) and the challenge of grappling with complex medical content (see below). However, I also had the luxury of time to devote to developing this curriculum. One of the biggest challenges that teachers will face in developing and implementing this curriculum is the likelihood of not being granted sufficient time and support for its success.

Time and support are required on several fronts. Collaborating with the medical faculty requires persistence and time in order to develop relationships, and much time and effort to reach a sufficient understanding of the content, assessments and materials of the medical classes. Linking the English class to the content class requires additional time and planning, both on the part of the ESOL teacher and on the part of the faculty in the medical school. Finally, using authentic materials and identifying and integrating language learning activities, skills and objectives takes time and creativity. Most English instructors in a university

program do not have the release time to devote so much work to a single curriculum. If universities are interested in incorporating this sort of content-based instruction, there will often need to be structural changes to support it.

Connected to the challenge of time and effort is the challenge that I faced in understanding some very complex medical content. Most challenging were the medical articles in English that I used from *Pharmacology*. I had to spend a lot of time reviewing terms and concepts from these articles with the help of medical dictionaries and Wikipedia. It also left me at a considerate disadvantage in comparison to what the students understood from the articles. The flip side, though, was that this created an authentic environment for meaning-based communication where the medical students often took on the roles of experts in relationship to the content, explaining to me the more technical terms while I explained to them the more linguistically complex parts.

Successes

"The best thing about this class is the challenging for me."

"The class was very helpful because it was about our career (field), and it helped me to improve in all competencies (oral, writing, reading, etc.)"

--- Student comments from the class evaluations

Despite these challenges, there were many successes. My experience of collaborating with Gustavo in the medical school was inspiring and demonstrated the power and potential of inter-departmental collaborations. Overall, the students were also enthusiastic about the experience. However, in my opinion the most significant success was the demonstrative success that the students showed in understanding challenging and authentic medical content and the relatively high level of language that they produced in relation to this content.

As English 4 students at UT, the students in my pilot class were technically classified as low-intermediate English students, though the English program director and teachers told me that many students were actually high beginner. Their textbook, learning objectives, class activities and assessments all reflected this low level placement. In this pilot class, however, students engaged with authentic materials around medicine that are aimed at native English speakers at a college level. Though the students were not able to engage with these materials at a level that native language medical students would be expected to, their test results (as well as the results on their listening tests) demonstrated that they could understand to varying degrees the organization, key information and challenging vocabulary of these materials. Furthermore, their oral communication and writing assessment tasks, such as the doctor-patient consultation role play and the summary task in the writing test, demonstrated that they could successfully produce language and carry out the oral competencies defined by this curriculum.

I believe a key factor that supported their learning of English was the asset and content-based nature of this class. This class positioned the students as experts in their English class – a rare situation for a class of low intermediate level English students. Their expertise in the content both allowed and motivated them to interact with the class materials in meaningful, authentic and critical ways. I believe it was this motivating and challenging setting that supported the students in performing at a higher level of English that standard English proficiencies tests would indicate.

WEB RESOURCES

"Bridging Undergraduate ESL medical students to research skills and academic discourses" by Gavin Melles
A case study of the context and curriculum outline of an ESL bridge program for medical students at the University of Melbourne
http://www.ameprc.mq.edu.au/docs/prospect_journal/volume_20_no_2/20_2_3_Melles.pdf

World Health Organization
A good site for medical articles
http://www.who.int/en/

Ted Talks
An excellent source of videos of presentations on academic subjects, such as medicine
www.ted.com/

Hospital English
Excellent source of lessons, short podcasts and materials (intermediate)
http://www.hospitalenglish.com/

English for Medical Purposes (EMP) website: Tokyo Medical University
Excellent source of authentic audio recordings of medical consultations and medical texts for 3rd and 4th year medical students
http://www.emp-tmu.net/

The Royal Children's Hospital in Melbourne: Writing a good medical report
An excellent source for writing and organization a medico-legal report in emergency medicine
http://www.rch.org.au/clinicalguide/guideline_index/Writing_a_good_medical_report/

Med Scape: A fact sheet that gives information about writing medical reports
http://www.medscape.com/viewarticle/728271_5

Journal of Medical Case Reports: A guide to writing case reports for the Journal of Medical Case Reports and BioMed Central Research Notes
A very in depth source for writing and organization a medical case report
http://www.jmedicalcasereports.com/content/7/1/239

VOA special English. Short videos of 3-4 minutes around different topics, such as medicine.
http://learningenglish.voanews.com/

List of websites for medical English - texts, audio, video, online dictionaries and more
http://www2.units.it/brancaleone/internet%20resources%20for%20Medical%20English.htm

Education Portal: Free online videos on science subjects with simple 5 questions quizzes
http://education-portal.com/academy/subject/science.html?hq_e=el&hq_m=1546235&hq_l=3&hq_v=97adf72362

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Appendix

English needs assessment questionnaire for medical professors

Answer the following questions by ranking your answers in order of importance (1= most important and 8 = least important) and add additional reasons if you like.

1 Why does the Medical School include English courses in the program of study?

___ Students need to understand lectures in English in their university classes.

___ Students need to speak English in their university classes.

___ Students need to read and research textbooks, articles and publications in English.

___ Students need to write research papers or articles in English.

___ Students need to attend and/or present oral presentations in English.

___ Students will need to know English if they plan to further their studies.

___ Students will need to communicate in English with international colleagues in the field.

___ Students will need to communicate with their patients in their work.

Other:

2. What English skills are most important for medical students to have at graduation?

___ The ability to communicate personal information and have a basic conversation in English

___ The ability to understand lectures in English

___ The ability to give an oral presentation in English

___ The ability to speak and understand on the phone with international companies in English

___ The ability to discuss medical topics in detail with international colleagues

___ The ability to write and read an email in English

___ The ability to write a research paper or article in English

___ The ability to read textbooks, articles and research papers in English

Other:

3. What should the English courses in the Medical School focus on the most?

___ Reading

___ Writing

___ Speaking

___ Listening

___ Grammar

___ Vocabulary

___ Pronunciation

___ Translating between English and Spanish

Other:

I would like to see copies of textbooks, syllabuses, and class materials used in the medical course. This will help me create lessons with specific concepts and vocabulary relevant to medical students.

English needs assessment questionnaire for medical students

Answer the following questions by ranking your answers in order of importance (1= most important and 8 = least important) and add additional reasons if you like.

1 Why is it important for you to learn English for your classes in the Medical School?

___ I need to understand lectures in English in my university classes.

___ I need to speak English in my university classes.

___ I need to read and research textbooks, articles and publications in English.

___ I need to write research papers or articles in English.

___ I need to attend and/or present oral presentations in English.

___ I will need to know English to further my studies.

___ I will need to communicate in English with international colleagues in the field.

___ I will need to communicate with my patients in my work.

Other:

2. Which skills should this English class focus on the most?

___ Reading

___ Writing

___ Speaking

___ Listening

___ Grammar

___ Vocabulary

___ Pronunciation

___ Translating between English and Spanish

Other:

Writing Homework

Write a paragraph (100-200 words) about your professional and academic goals after you graduate from the University of Talca.

Assessment tasks defined in “Development of International Standards for Medical Communications in English”

Listening skills assessment tasks

- Listen for factual and implied information in a native EMP text
- Listen for factual and implied dialogue between two biomedical professionals or a professional and a layman.
- Genres include medical interviews, case reports, oral presentations, history taking, and explanation.

Speaking assessment tasks

- Introductory conversation between the candidate and the examiner about the candidate’s professional background
- Presenting a problem in a monologue
- Taking a case history in a dialogue (with the candidate in the role of the medical professional and the examiner playing the part of the patient)
- Presenting a graph, diagram, or a table.

Reading skills assessment tasks

- Understand global, factual, and implied information in an authentic general medical text, which can be taken from one of the following sources: encyclopedias; medical textbooks; technical descriptions; and official letters or applications.
- Understand information from an authentic subject-specific medical text taken from medical textbooks, medical research articles, summaries, ex- tracts, abstracts, or case reports. The length of the two texts altogether is 1,100 to 1,200 words.

Writing skills assessment tasks

- Write an official letter containing factual and implied information from given prompts. Genres include job applications, conference correspondence, supporting letters, letters of complaint, referrals, and case reports for peers. The expected length is 150 to 200 words.
- Summarize a description of a disease in English. The original text consisting of 300 to 350 word is written in the candidate’s mother tongue, and the expected length of the summary is a minimum of 150 words.

Textbook review

Professional English: English for Health Science: Heinle Cenage Learning
http://ngl.cengage.com/search/productOverview.do?Ntt=14890308461895399493201859465778997114 9&N=4294918395+4294917839&Ntk=P_EPI

- Units and competencies connect well with the content of the UT content class, Preclinical
- Targets intermediate level ESL students
- Designed for pre-work students and those already working
- Organized around doctor-patient interactions
- Very authentic language and situations
- Lots of technical language
- Focuses on oral skills though it also includes reading and writing tasks
- Simple format and uncrowded layout
- Each unit concludes with a relevant project.
- According to its back cover it is “suitable for university students at the intermediate level who want to use their English for international communication in Health Science Fields”

Description from its website

The purpose of English for Health Sciences is to empower students with the language and life skills they need to carry out their career goals. To this end it provides ample opportunities for students to build awareness and practice the language in real-life scenarios. Its integrated skills approach develops the student's self-confidence to survive and succeed in professional and social encounters within an English-speaking global community. Health Science majors will immediately be motivated by the opportunity to prepare for their future careers by practicing their English language skills in the following job-related scenarios. Diagnosing Putting a patient at ease with small talk, taking a medical history, asking open-ended questions, presenting a case, and explaining medical tests and procedures to a patient Treating a patient Giving advice, explaining a case to a relative, explaining causes and treatments, giving discharge instructions, and calming people down Dealing with critical patients Describing and identifying causes of pain, recognizing and adopting supportive intonation, presenting a case in lay as well as medical terms, and breaking bad news Assisting in rehabilitation and long-term care Examining a non-verbal patient, communicating with the next of kin, explaining test results to patient and relatives, explaining the conditions of long-term care, and giving instructions for physical therapy Referring a patient Calling in a specialist, referring a patient to another doctor for tests and/or treatment, and giving post-operative advice.

Professional English in Use: Medicine: Cambridge University Press
http://www.cambridge.org/cl/elt/catalogue/subject/project/item405038/Professional-English-in-Use-Medicine/?site_locale=es_CL

- Intermediate/upper intermediate ESL level
- Primary designed for medical students
- Content is organized around the following

    - Body and systems of the body
    - reading medical journals and textbooks
    - structures for communicating with a patient
    - Writing and presenting medical research
- Content-based format organized similar to a med school curriculum, less focus on communication
- Texts are short excerpts from medical textbooks and journals
- Some sections are devoted to competencies such as doctor consultations, giving a presentation, writing an abstract
- Lots of grammar and structures contextualized around interactions in professional health context
- Lots of corpus health-related vocabulary
- No communicative activities
- No audio
- Poor layout: crowded pages and some small text

Description from its web page

Professional English in Use Medicine contains 60 units covering a wide variety of medical vocabulary. Topics include diseases and symptoms, investigations, treatment, examining and prevention. The book also introduces general medical vocabulary related to parts and functions of the body, medical and para-medical personnel, education and training, research, and presentations. Primarily designed as a self-study reference and practice book, it can also be used for classroom work and one-to-one lessons. Professional English in Use Medicine has been carefully researched using the Institute for Applied Language Studies medical corpus, as well as authentic texts, documents and cases. Professional English in Use Medicine is a must for teachers of medical English and for medical practitioners who need to use English at work, either in their own country or abroad.

Oxford English for Careers: Medicine 1. (Oxford University Press)

A course for pre-work students who are studying for a career in medicine (get from MIT)
https://elt.oup.com/catalogue/items/global/business_esp/oxford_english_for_careers/medicine/9780194023009?cc=global&selLanguage=en&mode=hub

- Intermediate ESL level
- Good layout with color and uncrowded pages
- Comes with audio and transcripts
- Equally spread among all 4 language skills as well as grammar
- Competencies and texts are framed around working in a hospital, not studying in medical school
- Texts are not very medical specific – more journalistic type discourse, no research articles, some texts that a doctor might come across in a hospital

Description from its web page

Medicine is ideal for pre-work students, studying at upper-intermediate to advanced level, who will need to use English in work situations. It is also suitable for doctors and other health professionals who plan to work in English-speaking countries. Medicine develops the

vocabulary, language, and skills that students need to read and understand medical texts, to be successful in medical exams, and to communicate effectively and accurately with patients and colleagues.

- Career-specific grammar, vocabulary, and skills practice.
- Language practice in real work situations.
- 'It's my job' - real people talking about their work.
- Online interactive exercises for revising and recycling language at www.oup.com/elt/oefc
- Teacher's Resource Book with background information on the industry to help you teach with confidence
- Additional activities and tests for extra practice and support.

Student evaluation form

Please answer the questions as fully as possible. Your feedback is very important in helping me make the class better.

Competencies

Evaluate how effective this class was in improving your ability to carry out the following competencies.

	Excellent	Good	Fair
Communicate orally with a patient	_____	_____	_____
Deliver an oral presentation on a medical issue	_____	_____	_____
Listen to and understand a lecture on a medical issue	_____	_____	_____
Read and understand a medical text	_____	_____	_____
Write a summary of a medical article	_____	_____	_____
Paraphrase in your own words a medical passage	_____	_____	_____
Write and support your opinion in a short paragraph	_____	_____	_____

Which competencies or skills do you think should be more emphasized in the class? (You can choose from those above or identify other competencies or skills.)

Assessments and Homework

How useful and relevant were the following assessments in terms of demonstrating how effectively you can use English to carry out the competencies above?

	Very useful and relevant	Somewhat useful and relevant	Not useful and relevant
Doctor-patient role play			
Conservation evaluations			
Case study oral presentation			
Data oral presentation			
Listening tests			
Reading tests			
Writing tests			

Which of the assessments above were less effective. Please explain why and/or provide suggestions for how to make them better.

Was the amount of homework appropriate? Please explain.

Class Textbook

Please give your opinion of the materials photo copied from the textbook, *English for Health Sciences*. Was the textbook challenging enough? Were the textbook recordings relevant and effective? Did you like the content and themes? Did you like the exercises and activities? Why? Please be specific.

Teacher effectiveness

How effective was the teacher for the following:

	Definitely	Mostly	So so
S/he was always prepared and organized.	_____	_____	_____
S/he was knowledgeable about teaching English.	_____	_____	_____
S/he had sufficient understanding of medical content.	_____	_____	_____
S/he gave helpful feedback on my learning/progress.	_____	_____	_____
S/he encouraged everyone to participate.	_____	_____	_____
S/he showed interest in my learning.	_____	_____	_____
S/he responded to my questions effectively.	_____	_____	_____
S/he made the class challenging.	_____	_____	_____
S/he made the class engaging.	_____	_____	_____
S/he was fair.	_____	_____	_____

Class effectiveness and challenges

How did this pilot English class compare with the previous English classes you have taken at the university?

	More in the pilot English class	Same in both classes	More in previous English classes
Your learning of English			
Your level of motivation			
The relevancy of the materials			
The effectiveness of the materials			
Difficulty of the class			
Your time spent on homework			

What did you like best about this class?

What could make this class better?

Results of student feedback

Explanation of the data

The data from the 20 feedback forms that were completed by every student in the pilot class is presented in two ways.

1. For questions where students were asked to rate the class on a scale of one to three, an average for the entire class was calculated and is noted below.
2. For short answer response questions, the most common response is noted.

Competencies

Evaluate how effective this class was in improving your ability to carry out the following competencies.

	Excellent (3 points)	Good (2 points)	Fair (1 point)
Communicate orally with a patient		**2.4**	
Deliver an oral presentation on a medical issue		**2.2**	
Listen to and understand a lecture on a medical issue		**2.5**	
Read and understand a medical text		**2.7**	
Write a summary of a medical article		**2.5**	
Paraphrase in your own words a medical passage		**2.4**	
Write and support your opinion in a short paragraph		**2.5**	

Which competencies or skills do you think should be more emphasized in the class? (You can choose from those above or identify other competencies or skills.)

The most common comment was that the students wanted more practice in and focus on communicating orally with a patient.

Assessments and Homework

How useful and relevant were the following assessments in terms of demonstrating how effectively you can use English to carry out the competencies above?

	Very useful and relevant (3 points)	Somewhat useful and relevant (2 points)	Not useful and relevant (1 point)
Doctor-patient role play	**2.7**		
Case study oral presentation		**2.4**	
Data oral presentation		**2.5**	
Listening tests	**2.6**		
Reading tests	**2.7**		
Writing tests	**2.7**		

Which of the assessments above were less effective? Please explain why and/or provide suggestions for how to make them better.

No common comments or responses

Was the amount of homework appropriate? Please explain.

Overwhelmingly, the students said that the assigned homework was too much.

Class Textbook

Please give your opinion of the materials photo copied from the textbook, *English for Health Sciences*. Was the textbook challenging enough? Were the textbook recordings relevant and effective? Did you like the content and themes? Did you like the exercises and activities? Why? Please be specific.

Overwhelmingly, the students stated that the textbook was relevant, challenging and effective. Many students said they liked the oral practice exercises.

Class effectiveness and challenges in comparison to the standard English classes

How did this pilot English class compare with the previous English classes you have taken at the university?

	More in the pilot English class (3 points)	Same in both classes (2 points)	More in previous English classes (1 point)
Your learning of English	**2.6**		
Your level of motivation	**2.5**		
The relevancy of the materials	**2.8**		
The effectiveness of the materials	**2.5**		
Difficulty of the class	**2.9**		
Your time spent on homework	**2.9**		

What did you like best about this class?

The most common response was that students liked the medical content and topics of the class.

What could make this class better?

The most common response was that the class could be improved with less homework.