

Word Dissections. An Interactive Method of Teaching Medical Terminology

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Abstract:

Teaching vocabulary in EMP (English for Medical Purposes) classes can follow traditional methods or more modern directions, the latter being fundamentally student-centred. This article focuses on a discovery technique that entails collaboration with students while working on medical terminology. Medical vocabulary benefits from collaborative teaching, which ensures a more effective learning and long-term retention of new terms. To illustrate the teaching methodology in question, we will use the exercises we called ‘word dissections’. A ‘word dissection’ is the name we coined for an activity that asks students to identify the word parts of medical terms. In medicine, word parts usually carry a meaning, as they are derived from Greek or Latin terms. On the basis of these meanings, students are asked to infer the sense of the term that the word parts form. This type of activity can function in any context, regardless of the topic of the lesson, and is a very efficient way of involving students in the teaching process.

Keywords: medical terminology teaching, word parts, discovery technique

1. Introduction

Medicine is known for its large corpus of specialized terms, mostly borrowed from Greek and Latin. In medical language, derivation by affixation, which builds potential complex words on the pattern of existing words, is a very productive morphological process, based on word parts of Greco-Latin parentage.

Most medical terms, especially in the fields of anatomy and physiology, can be divided into word parts – roots, prefixes and suffixes –, which maintain the same meaning whenever they appear. The root establishes the basic meaning of the word. The Greek word *kardia*, for example, meaning “heart,” has given, in European languages, the root *cardi* (*myocardial*, *cardiology*, *tachycardia*, *endocarditis* etc.). Sometimes, both

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Greek and Latin word parts are used, referring to the same concept. The Greek *nephr/o* (*nephron*, *nephritis*, *nephrology* etc.) and the Latin *ren* (*renal failure*, *hepatorenal syndrome*, *renovascular* etc.) refer to the kidney.

Students can form a word-based foundation for building a medical vocabulary by learning word parts. The usefulness of this method becomes apparent to learners when they discover that most medical words are related to one other since they were adopted from either Greek or Latin. Therefore, by discovering and learning the meaning of word parts, students may analyse new words, deduce their meaning and remember them in the long-run.

2. Materials and methods

This article serves a twofold purpose. On the one hand, it shows that a student-centred approach to teaching medical terminology is beneficial in EMP classes. This teaching methodology prioritizes the needs and engagement of students, fostering active participation in the learning process.

And on the other hand, the paper gives examples of vocabulary exercises, in order to illustrate the student-centred teaching methodology. The exercises are called ‘word dissections’, and, as will be seen further on, they enhance language acquisition in a collaborative way, stimulating students’ interest and improving knowledge retention.

A ‘word dissection’ is a term coined for an activity that asks students to identify the word parts of medical terms and then use them in different types of exercises. As mentioned before (cf. 1), word parts carry a meaning, being derived from Greek or Latin terms. On the basis of these meanings, students are asked to infer the sense of the term that the word parts form. This is a discovery technique that entails collaboration with students while working on medical terminology, which is an efficient method of involving students in the teaching process.

In terms of how to implement these activities in the classroom, ‘word dissections’ can function in any context, regardless of the topic, being particularly relevant for teaching the terminology related to body systems.

3. Sample exercises

The teaching materials used as samples will show how ‘word dissections’ can be integrated in a medical English course, being linked to other activities, thus involving more language skills. The language skills targeted are specified for each task.

Task 1

Language skills:

- reading – understand and identify details, specific information
- speaking – interacting with others on a given topic, information processing, understand and interpret text
- writing – write answers to targeted questions

Students read the text “An Overview of Medical Terminology” (Frînculescu 2014: 17). Then, in pairs, they answer the questions below. When they have written the answers, they are asked to check them with the class.

- a. What are the underlying languages of medicine?
- b. What are most medical terms made of?
- c. Can word parts help you learn medical terminology? In what way?
- d. Give examples of Greek and Latin medical word parts.

Answers:

- Greek and Latin
- roots, prefixes, and suffixes
- by recognizing their meaning, one can improve reading skills, analyse and remember many terms
- *cardi* from the Greek word *kardia* (eg. *angiocardiography*, *myocardial*, *cardiology*, *tachycardia*, *endocarditis*); *nephro* (*nephron*, *nephritis*, *nephrology*, *pyelonephritis*); *ren* (*renal failure*, *hepatorenal syndrome*, *renovascular*)

Task 2. Word dissection

Language skills:

- speaking – language processing, interacting with others – discuss to infer meaning, practice pronunciation and discuss translation
- reading – read to check predictions
- writing – cooperative writing, fill in the gaps in one's understanding by using information about the language forms and use, practice translation

A. In small groups, students divide the medical terms listed below into word parts. The language lecturer acts as a facilitator and helps them in the discovery process. Then, learners are introduced to the meanings of the word parts in question. With the help of these meanings, students try to work out the definitions of the words. Finally, they look up the terms in dictionaries and compare the definitions they have produced to the actual dictionary definitions.

Besides helping students understand and remember new medical terms, this exercise is also a lexicographic activity, which engages them in a research activity. Moreover, collaborative writing can be very motivating for students since it involves not only writing, but also research discussion, peer assessment and a sense of pride in completing tasks as a group.

- *angiocardiography* (*angio* 'blood vessel'; *cardio* 'heart'; *graphy* 'recording')
 - students' definition: a recording of the heart and blood vessels
 - dictionary definition: "the radiographic visualization of the heart and its blood vessels after injection of a radiopaque substance" (Merriam-Webster 2003)
- *cardiology* (*cardio* 'heart'; *logy* 'science, study of')
 - students' definition: the science that studies the heart
 - dictionary definition: "the medical specialty concerned with the diagnosis and treatment of heart disease" (Stedman's 2001)
- *endocarditis* (*endo* 'within'; *card/i* 'heart'; *itis* 'inflammation')
 - students' definition: inflammation of the inner part of the heart

- dictionary definition: “inflammation of the lining of the heart and its valves” (Merriam-Webster 2003)
- *myocardial* (*myo* ‘muscle’; *cardi* ‘heart’; *al* – adjective-forming suffix)
 - students’ definition: relating to a muscle of the heart
 - dictionary definition: “of or pertaining to the myocardium, the muscular substance of the heart” (Simpson/Steiner 1989)
- *angioplasty* (*angio* ‘blood vessel’; *plasti* ‘formation, plastic repair’)
 - students’ definition: plastic repair of a blood vessel
 - dictionary definition: “surgical repair of a damaged blood vessel, especially the unblocking of a coronary artery; an operation to perform this” (Simpson/Steiner 1989)
- *nephritis* (*nephro* ‘kidney’; *itis* ‘inflammation’)
 - students’ definition: inflammation of the kidneys
 - dictionary definition: “acute or chronic inflammation of the kidney caused by infection, degenerative process, or vascular disease” (Merriam-Webster 2003)
- *nephrology* (*nephro* ‘kidney’; *logy* ‘science, study of’)
 - students’ definition: the science that studies the kidneys
 - dictionary definition: “the branch of medical science concerned with medical diseases of the kidneys” (Stedman’s 2001)
- *tachycardia* (*tachy* ‘accelerated’; *cardia* ‘heart’)
 - students’ definition: accelerated heart rate
 - dictionary definition: “abnormal paroxysmal rapidity of the heart’s action” (Simpson/Steiner 1989)
- *tracheostomy* (*tracheo* ‘trachea’; *stomy* ‘a surgical making of an opening’)
 - students’ definition: the surgical making of an opening in the trachea
 - dictionary definition: “the surgical formation of an opening into the trachea through the neck, especially to allow the passage of air” (Merriam-Webster 2003)

The results of the exercise are excellent. After comparing their definitions to the dictionary definitions, students conclude that they have grasped the meaning of the newly introduced vocabulary, by using ‘word dissection’ and collaborative group work. That is a successful teaching activity, which encourages students to be a part of the learning process and enjoy medical terminology acquisition.

B. Students practise the correct pronunciation of the words whose meanings they have discovered in the previous activity, by using them in sentences they create. They continue to work in groups. Then, they are asked to work out the Romanian counterparts for each word. When they have written the translations, they check them with the class.

Answers:

- *angiocardiography* = angiocardiografie
- *cardiology* = cardiologie
- *endocarditis* = endocardită
- *myocardial* = miocardic
- *angioplasty* = angioplastie
- *nephritis* = nefrită
- *nephrology* = nefrologie
- *tachycardia* = tahicardie
- *tracheostomy* = traheostomie

Task 3

Language skills:

- listening – listen selectively, understand and identify specific information
- speaking – language processing (vocabulary), interacting with others
- writing – cooperative writing

Students listen to a recording, while having a list of medical terms on which they are told to focus. After listening to the excerpt, students are given the word parts below. Then, in pairs, learners discuss the newly

introduced vocabulary, and, with the help of the word parts, they fill in the blanks of the definitions below.

- *cardi/o* – heart
- *atri/o* – atrium
- *ventricul/o* – ventricle
- *valv/o, valvul/o* – valve

- a. The word *cardiogenic* means originating in the _____
- b. *Interatrial* _____ means _____ between _____ the _____
- c. The term *ventriculotomy* refers to the surgical cutting into a(n) _____
- d. A *valvuloplasty* involves the plastic reconstruction of a(n) _____
- e. _____ refers to anything related to the heart.
- f. _____ refers to an atrium.

Answers:

- a. heart
- b. atria
- c. ventricle
- d. valve
- e. cardiac
- f. atrial

Task 4.

Language skills:

- speaking – understand language, discussion
- writing – cooperative writing, concentrating on writing correctly

Students are introduced to more word parts, related to the respiratory system. They discuss them in groups of four. The teacher acts as a prompter,

by offering suggestions and giving more information on word parts to help students and the activity to progress. With the help of the word parts, given below, learners are asked to write a word for each of the definitions that follow.

- *nas/o* – nose
- *rhin/o* – nose
- *pharyng/o* – pharynx
- *laryng/o* – larynx
- *trache/o* – trachea
- *bronch/o* – bronchus
- *pnoea* – breathing

1. near the nose
2. inflammation of the pharynx
3. related to the larynx
4. endoscopic examination of a bronchus
5. inflammation of the bronchioles
6. plastic surgery to repair laryngeal anomalies
7. surgical incision of the trachea
8. painful or difficult breathing
9. lack of breathing

Answers:

1. paranasal
2. pharyngitis
3. laryngeal
4. bronchoscopy
5. bronchiolitis
6. laryngoplasty
7. tracheotomy
8. dyspnoea
9. apnoea

4. Conclusions

This study has presented a practical approach to teaching terminology in medical English classes. To illustrate discovery techniques in introducing vocabulary, we have provided teacher-made materials, which use the specificity of medical terminology to help students infer the meaning of new words and use them in different types of activities.

The exercises presented, which we called ‘word dissections’, proved to be very efficient, creative and interactive. They engaged learners in pair and group work, discussions, dictionary research and collaborative work with both colleagues and the language lecturer. Moreover, the activities shown involved all language skills, mostly used in combination.

We have tried to show that this student-centred method can bring worthwhile and long-term results and can be applied successfully to each and every course. It is an example of how students can be given the tools to understand and use medical terminology, by focusing on word parts and their meanings. Moreover, by discussing new medical vocabulary, students activate passive general vocabulary, incorporate appropriate structure, learn the English pronunciation and spelling of medical terms, and even work out their Romanian counterparts.

References:

- Ferguson, G. 2013. “English for Medical Purposes”. *The Handbook of English for Specific Purposes*. Eds Brian Paltridge and Sue Starfield. Chichester: Wiley-Blackwell. 243-261.
- Frînculescu, Iulia Cristina 2014. *Essentials of Medical English*, Medical English Series. Iași: Editura Tipo Moldova.
- Harmer, Jeremy 2001. *The Practice of English Language Teaching*, 3rd edition. New York: Pearson Longman ELT.
- Janson Cohen, Barbara 2003. *Medical Terminology: An Illustrated Guide*. Philadelphia: Lippincott Williams & Wilkins.
- Merriam-Webster 2003. *Merriam-Webster's Collegiate Dictionary & Thesaurus*, version 3.0, 11th edition.
- Simpson, J. A/Steiner, E. S. C. (eds.) 1989. *Oxford English Dictionary (OED)*, 2nd edition. Oxford: Oxford University Press.
- Stedman's 2001. *Stedman's Concise Medical Dictionary for the Health Professions*, 4th edition. Philadelphia: Lippincott Williams & Wilkins.