

Vocabulary Building Strategies for Engineering Students

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Abstract. The present study considers vocabulary building strategies to help engineering students enrich functional lexis in the area of power engineering. The aim of the study is to investigate the role of lexical approach and to prove that increasing vocabulary is possible through studying synonyms and collocations and choosing the appropriate vocabulary learning strategy to understand the meaning of functional texts. We overview the synonymic rows used in power engineering area and offer creative tasks for educators and researchers to use in the classroom.

INTRODUCTION

Although there is a wide range of different techniques in teaching English to engineering students, there are still many problems educators and students face in the language classroom. We need to help engineering students enhance the vocabulary, otherwise there will be more barriers students will be unable to overcome in the future. There is a demand to use effective strategies for enriching vocabulary.

Vocabulary building strategies can be used to solve the problems mentioned above. We suggest that using vocabulary building strategies in teaching English to engineering students will be useful for both educators and learners.

Some researchers implement cooperative language learning strategies in enhancing writing proficiency of the undergraduate engineering students [1], other educators identify the determination strategies of engineering students' vocabulary knowledge through technological modalities [2], many others study vocabulary learning strategies [3, 4] coming to conclusion that the cognitive strategies [3] and metacognitive strategies [4] are the most popular strategies among engineering students. Among six most used and most helpful strategies used by engineering students are the following: "using a bilingual dictionary, written repetition, verbal repetition, saying a new word loudly, studying a word's spelling and taking notes in class [4, p. 314]".

Although vocabulary and grammar should be taught in any classroom, vocabulary is more central than grammar.

According to Michael Lewis, "within a lexical approach greater emphasis is placed on introducing and practicing lexis [5, p. 128]". Michael Lewis includes in the taxonomy of lexical items: words, collocations, sentence heads, institutionalised utterances, supra-sentential linking and synonyms. He thinks that it's necessary to learn not only words, but collocations which "by concentrating on the linguistic environment rather than real-world environment, provides the most powerful organisational principle for language teaching and for arranging for the efficient recording of new items [5, p. 119]". So our efforts will focus on enriching students' vocabulary studying the role of synonyms and collocations used in the field of power engineering.

VOCABULARY BUILDING STRATEGIES AND TASKS FOR POWER ENGINEERING STUDENTS

Among vocabulary building strategies used in the area of power engineering is learning synonymic rows, such as *grid - network*. In English Oxford Living Dictionaries [6] we've found such explanation of the term "grid": a network of cables or pipes for distributing power, especially high-voltage transmission lines for electricity and the example with the word grid: 'the reactor was connected to the grid in 1985'. In Online Oxford Collocation Dictionary [7] there is an example of collocation GRID+NOUN: "Power can be fed from wind generators into the electricity grid system". One more phrase "off the grid" which means "not connected to the basic services, especially electricity" and the example sentence with this phrase is found in English Oxford Living Dictionaries: "Most people who are off the grid (at least those living in the United States), rely on some combination of alternative energy such as wind, photovoltaic or hydro [6]".

Students should learn not only collocations, but synonyms to enhance their vocabulary. In English Oxford Living Dictionaries [6] the synonym to grid is a network which is explained as: "a system of connected electrical conductors" [6]. The example sentence with the term "network": "The Turkish side also promised to study the possibility of connecting the electricity networks of the two countries, in case of fulfilling the third stage" [6].

Another example of synonyms that power engineering students should learn is *energy-power-electricity-capacity*. Researchers have attempted to look at comparing these very close terminological items [8] to understand the value of the correct use of these synonyms. The dominant synonym in the synonymic row *energy-power-electricity-capacity* is *energy*. In English Oxford Living Dictionaries *energy* is explained as "power derived from the utilization of physical or chemical resources, especially to provide light and heat or to work machines [6]." The example given here is 'nuclear energy' [6]. The second word in this row is *power*. Merriam Webster Dictionary gives such an explanation of this term: "a source or means of supplying energy especially: electricity [9]". As for *electricity*, it is described as a particular type of energy. In Cambridge Dictionary *electricity* is defined as "a form of energy that can be produced in several ways and that provides power to devices that create light, heat, etc. [10]". The definition of the word *capacity* given by Macmillan Dictionary is the following: "the amount of energy or power that something can produce [11]". Different definitions were presented. It seems essential to correctly understand and apply the terms from the area of power engineering. This ability can help future engineers in solving their professional problems.

While studying students should be encouraged to record not unconnected words, but the whole sentences in their copybooks so that they can easily retrieve them. In some cases, students can record lexical phrases with the equivalent in their own language. Vocabulary has connection with reading comprehension. Some researchers proved that "there is a strong link between vocabulary knowledge and reading comprehension" [12, 13], so students will be able to read authentic texts in the area of power engineering. A creative task for reading comprehension that has been successfully implemented in the course of additional educational program "Translator in the area of professional communication" delivered at School of Energy and Power Engineering at the National Research Tomsk Polytechnic University is called "home-made reading comprehension". Learners should find a technical text in the field of power engineering that interest them and write their own comprehension questions about the text for the class to answer. Students exchange texts and questions with a partner, and write answers to the comprehension questions they have been given. Then students check one another's answers. This task is very motivating for students interested in studies, and in their future professional development.

CONCLUSIONS

Choosing the right strategy to enrich vocabulary in the area of power engineering is important. Synonyms and collocations as well as creative reading comprehension tasks enable students to understand functional texts better and become more confident in all fields of studies.

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