

Technical English Vocabulary Tasks for Engineering: Practice Variation

تمارين المفردات في الانجليزية التقنية للهندسة: تنوع التطبيق Exercices du vocabulaire technique anglais pour l'ingénierie : variation de la pratique

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Introduction

The importance of learning technical English is widely highlighted in Algeria. Students and workers need to be equipped with adequate English in order to conduct effectively in their field of study or work. In the fields of teaching English for specific purposes (ESP), learning technical vocabulary plays an important role for learners who are in need to know adequate vocabulary that can help them convey meaning in communication. The importance of learning technical vocabulary is supported by Nation (2001) who noted that technical vocabulary is vital for English language learning, especially in ESP classes. According to Chang and Nation (2003), there are many researches about academic and high frequency words, but only a few ones about technical vocabulary which is widely used in the workplace or in a specialized field of study. It has been identified as a central part in ESP learning. They, also, added that technical English vocabulary can be a usual word which has a specific meaning which is different from its known meaning when used in specific field.

1. Teaching Technical Vocabulary in ESP

In ESP classes, learners encounter different texts in specific contexts, so, it is found that they use different strategies to guess the meaning of words, for this, Nation (2001) claimed that a huge amount of vocabulary could be learned by vocabulary learning strategies.

Among these strategies, Brikena (2010) mentioned the following ones: asking, guessing from the context, checking the dictionary, analyzing parts of speech.

Presenting and practicing are two stages of teaching vocabulary in ESP. Georgieva (2007) mentioned that the main procedures to present new terms are as follow:

- Presenting the word with its synonym or antonym.
- Matching terms to their pictures or to their definition.

- Presenting new words in a scale.
- Visualizing

He added that, after dealing with the presentation of the new vocabulary, the ESP teacher has to ensure not only learning but also remembering the presented new terms and their productive use, to do so, he has to incorporate various tasks and activities in the learning process. In fact, there are many useful types of activities in order to practice vocabulary learning, like: **Matching drills**: the student, in here, has to match the word to its definition or its equivalent, match the word with its synonyms to or /antonyms, match the word to an image/symbol/abbreviation or diagram, match collocations. **Categorization** of words, **multiple choices** (the student is asked to choose the appropriate or the correct word). **Completion tasks**: e.g.: fill in the blanks. In the **creation tasks**, students are asked to use the new learned vocabulary in sentences or in a written piece or in speaking or in both skills.

2. Methodology, Sstatement of the problem and research questions

2.1. Statement of the problem and research questions

Due to the great importance of technical English in all fields of study and work and the great evolution of research and technology, engineering students at BadjiMokhtar university need to acquire the adequate English technical vocabulary in order to conduct their studies effectively, but because the language of instruction was French and their background knowledge of technical vocabulary is limited, they find it difficult to cope with the English technical terminology in the field of technical English. Also, the way of teaching technical English vocabulary is not beneficial and lacks practice.

This study aims at presenting various types of vocabulary activities and tasks related to the field of engineering in order to help postgraduate students recognize the new technical English vocabulary in the field of their study and strengthen their knowledge background.

The present study is designed to answer the following questions:

1. How do postgraduate engineering students acquire the newly learned technical English vocabulary?
2. What are the varied useful types of activities that would help postgraduate engineering students to enhance their technical English vocabulary learning?

2.2. Methodology

2.2.1 Participants

Thirty six postgraduate students of engineering at the university of Badji Mokhtar Annaba participated in this study. They are from different specialties and taught English as a module for 32 hours through the first semester of the academic year 2019/2020. Regarding their teacher of ESP, who has a “Magister” degree in English civilization, he has been teaching English at the faculty of Engineering for three (03) years.

2.2.2. Data collection tools

To conduct this study, the researcher needed two research instruments; the questionnaire, which was administered to the students when they had their English language course. This questionnaire aimed to check the respondents' level of English, their background knowledge of technical English vocabulary, and the strategies used by them in vocabulary learning.

The other research tool, which is the interview, was directed to the teacher of English in the aforementioned faculty, in order to know about his strategies and techniques in teaching technical English vocabulary to his students

3. Results and discussions

Descriptive statistics were conducted to respond to the first research question which is related to how postgraduate engineering students acquire the new technical English words in their field of study.

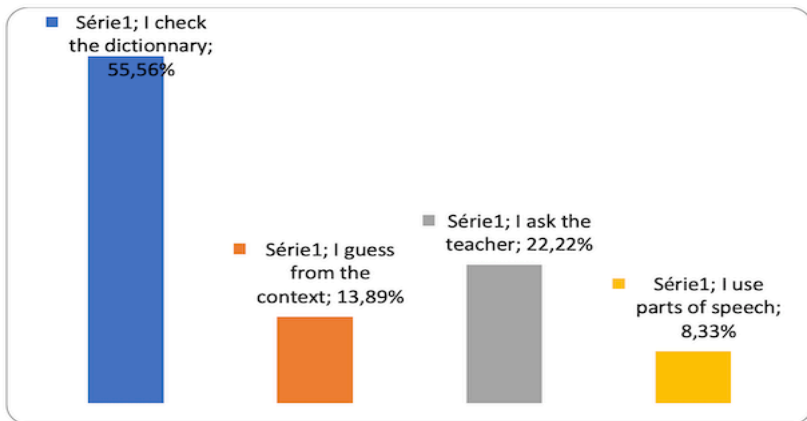


Figure1. The strategies used by students in order to acquire a new vocabulary.

The results in the aforementioned table show that the most frequent strategy used by the students is checking the dictionary to translate the word into French (twenty (20) students). Only eight (08) of them rely on asking the teacher in order to know about the meaning of the new words. Five (05) respondents resort to guessing from the context. And only three (03) of the students stated that they use parts of speech to recognize the new technical vocabulary. The results revealed that post graduate students do not practice technical vocabulary learning, and they face problems in identifying the meaning of the newly encountered words which means that our study would be significant and beneficial for the student since doing more and variant practice when learning English technical vocabulary in their field of study can make them able to grasp a huge number of technical words and use and remember them in different technical contexts. Regarding the way of teaching technical English vocabulary, the ESP teacher answered that he relies on translation into French or sometimes into Arabic in order to explain the meaning to his students without dealing with the various types of exercises.

To respond to the second research question, the following table is a description of the various types of activities and exercises that can be incorporated within the ESP vocabulary course in order to facilitate technical vocabulary learning and help students achieve a good level in English for Engineering.

4. Suggested types of tasks

Engineering field	Technical vocabulary	Varied Types of tasks
Engineering	<p>-Branches of engineering Chemical, electrical, industrial, mechanical, mining, civil, petroleum production, production</p> <p>-Equipment Crane, boiler, machine tool, pump, turbine</p> <p>-Processes of treating metal Forge, found, galvanize, temper, soften, etc</p>	<p>Task 1: matching each word to its definition/ picture</p> <p>Task 2: completing a paragraph by filling in the blanks by the appropriate word</p> <p>Task 3: complete sentences with the correct form of the word in brackets</p> <p>Eg: mechanics → mechanical Structure → structural</p>

<u>technology</u>	Desktop, laptop, note book, server, work station.. -Network Techniques, physical connections, electronic messages, hardware vs software (lexical field)	complete sentences (Multiple choice task). Task 2: put the instructions to set up network in the correct order. Task 3: spelling reference British or American Eg: program → American English Programme → British English
<u>Health and Safety</u>	Risk, danger, hazard, accident, vibration, dust, noise, hard hat, goggles, friction, toxic, vapour, shock, gas, dizziness, vomiting, burn, cancer... Safety measures Protect, rinse, seal, handle, wash, keep, precaution...	Task 1: write the appropriate protective notice on the shown picture. Task 2: combine a word from Column A and another word from column B and then match it to the appropriate definition Eg: genetic → damage → definition impair → fertility → definition
<u>Automotive</u>	Model, features, prototype, dust tunnels, tracks, jeep, pick up, van, body panel, forge, stamp, steel, paint shop,...etc, Advanced braking system (ABS), airbag...	Task 1: reorder the steps in the process of developing a car. Task 2: name the part of the car depending on its function Eg: function part -Holds fuel Engine -Makes the car go faster when it is pressed Clutch
<u>Construction</u>	Structure, partition, acoustical, ventilating, shallow, caisson piers, deadening, lattice, foundation, roof	Task 1: label the diagrams using words from the following list Task 2: choose one of the each to words then put it in a sentence from your own choice
<u>Electronics</u>	Emission, transmission, control, transitions, amplification, modulation, radio wave, battery, absorb, valve, storage system design, repair, manufacture.	Task 1: cross the odd word from a lexical field. Eg; (functions of electronic circuits) Task 2: choose a word from the box to complete the text. Task 3: choose a word from A and a word from B to complete the sentences.

Conclusion

As a conclusion, we should say that teaching technical or specific vocabulary is a great attention in teaching technical English from the point of view of professional and communicative perspective, technical vocabulary should be taught in its adequate context in order to create a productive vocabulary learning process. The ESP teacher should choose carefully the appropriate teaching material in order to facilitate vocabulary learning and create adequate learning conditions. Tasks in teaching technical English vocabulary are very practical and beneficial for ESP students. Because incorporating various tasks and activities in teaching technical English vocabulary for engineering students will help them integrate into the subject matter without facing understanding issues.

Bibliography

- Brikena X. (2010). Teaching and Learning ESP Vocabulary. *Revista De Linguas Para Fines Especificos*, 229-255.
- Chung TM, Nation P. (2003). *Technical vocabulary in specialized texts*. Reading in a Foreign Language, 103-116.
- Georgieva V. (2007). Systematization of Military Terminology: *Foreign Language Competence as an integral component of a University Graduate Profile*, 85-104.
- Nation ISP. (2001). *Learning vocabulary in another language*. Cambridge: Cambridge University Press.

Abstract

With the growth and development of ESP in business and technical fields of study and work, learning technical vocabulary is one of the most crucial factors for students to succeed in their technical English learning. In this study, the researcher suggests a variety of task samples which would be adequate to the teaching of technical English vocabulary in the study field of engineering. A questionnaire was administered to 36 post graduate engineering students from the faculty of engineering at Annaba University, the results revealed that the majority of the students have issues of understanding new technical English vocabulary and do not make enough vocabulary practice in the classroom. An interview, also, was directed to the teacher of ESP at the same faculty; the teacher confirmed that he deals only with translation into French or sometimes into Arabic in order to explain the new technical terms.

Keywords

ESP, technical English vocabulary, practice, engineering students.

ملخص

مع نمو وتطور اللغة الانجليزية لأغراض خاصة في مجالات العمل و الدراسة التقنية ، فان تعلم المفردات التقنية هو واحد من أهم العوامل لنجاح الطلاب في تعلم اللغة الإنجليزية التقنية. في هذه الدراسة، يقترح الباحث مجموعة متنوعة من عينات التمارين التي من شأنها أن تكون كافية لتعليم المفردات الإنجليزية التقنية في مجال علوم المهندسين. تم إعطاء استبيان لـ 36 طالباً من طلاب الدراسات العليا في علوم المهندسين من كلية الهندسة في جامعة عنابة، وكشفت النتائج أن غالبية الطلاب لديهم صعوبات في فهم مفردات إنجليزية تقنية جديدة ولا يقومون بالتطبيقات الكافية في الفصول الدراسية. كما تم القيام بحوار مع مدرس اللغة الإنجليزية في نفس الكلية، إذ أكد هذا الأخير أنه يستند فقط على الترجمة إلى الفرنسية أو في بعض الأحيان إلى اللغة العربية من أجل شرح المصطلحات التقنية الجديدة.

كلمات مفتاحية

الانجليزية لأغراض خاصة، مفردات تقنية بالانجليزية، التطبيق، طلاب علوم المهندسين.

Résumé

Avec l'évolution et le développement de l'Anglais pour des objectifs spécifiques dans les domaines scientifiques et techniques, l'apprentissage du vocabulaire technique est un des facteurs les plus importants pour les étudiants pour réussir en leurs études en anglais technique. Dans cette étude, le chercheur suggère une variété d'échantillons d'exercices qui seraient adéquats à l'enseignement de vocabulaire technique en anglais dans le domaine d'engineering. Un questionnaire a été visé au 36 étudiants post graduats de la faculté d'engineering à l'Université d'Annaba, les résultats ont révélé que la majorité des étudiants a des difficultés à comprendre le nouveau vocabulaire technique en anglais et ne fait pas des exercices dans la classe. Une interview, aussi, a été dirigée à l'enseignant de l'Anglais dans la même faculté; l'enseignant a confirmé qu'il utilise, seulement, la traduction en français ou quelquefois en arabe pour expliquer les nouveaux termes techniques.

Mots-clés

Anglais pour des objectifs spécifiques, vocabulaire technique en anglais, pratique, étudiants d'engineering