Creating a Technical Vocabulary Wordlist and Web-based Materials: The First Step for Teaching and Learning ESP

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Abstract

Technical vocabulary which is largely used by people working or studying in a specialized field is a pivotal component in ESP classes. The main focus for vocabulary learning should not be about "How many words a student should know", but "What words a student should know". This paper presents a practical method for creating a technical vocabulary wordlist and Web-based materials for teaching and learning ESP. The files created use HTML and JavaScript, but readers do not need to know anything about these languages in order to use the programmes and the files.

There are three computer programmes which are explained in this paper. All of them are explained in a practical and simple way that even a teacher with no computer knowledge background will be able to use them. The first programme, RANGE of Paul Nation, is used to create a technical vocabulary wordlist. The second one, HOT POTATOES from Half-Baked Software Inc., is used to create vocabulary quizzes. And, the third one, FrontPage of Microsoft Corporation, is for creating a Web-based technical dictionary. All of the Web-based materials created can be delivered and/or learned at any computer equipped with a browser, e.g. Internet Explorer.

Keywords: Technical Vocabulary, ESP, Range, Hot Potatoes, FrontPage, and Web-based Materials

I. Introduction

One of the developments of applied linguistics that emerged in the recent years is the emphasis on language use in academic, disciplinary, and professional settings. This development has resulted in a need for subject-specific English. According to Jordan (1997:5), a subject-specific English includes the language structure, vocabulary, the particular skills needed for the subject, and the appropriate academic conventions. In this article, the writers explore further about the vocabulary because it has a significant role in language learning. Wilkins (1972: 111) argues that without grammar very little can be conveyed, while without vocabulary nothing can be conveyed. The importance of learning vocabulary is also supported by Rivers (1983:125) who mentions that the acquisition of an adequate vocabulary is essential for successful second language use because, without an extensive vocabulary, we will be unable to use the structures and functions we may have learned for comprehensible communication.

According to Nation (2001:11-12), there are four kinds of vocabulary in a text: high frequency words, academic vocabulary, technical vocabulary, and low frequency words. High frequency words are the most frequent 2,000 words of English. West (1953) called these words a general service vocabulary because they were of use (or service) in most general texts. For learners with academic goals, the 570 word family Academic Word List of Coxhead (2000), the second kind of vocabulary, is like a specialised extension of the high frequency words. Academic vocabulary is common to a wide range of academic fields but it is not what is known as high frequency vocabulary and it is not technical in that it is not typically associated with just one field. Technical vocabulary, the third kind of vocabulary, is largely used by people working in a specialised field. The fourth kind of vocabulary consists of all the remaining words of English, the low frequency words.

Chung and Nation (2003:114) mention that there is considerable research evidence about the nature and coverage of high frequency and academic words, but there has been little investigation of technical vocabulary. One of the reasons for this is that English teachers or linguists do not usually have specialist knowledge of the learners' technical areas.

Nevertheless, technical vocabulary which is largely used by people working or studying in a specialized field is a pivotal component in English for Specific Purposes (ESP) classes. There are three steps proposed here in providing vocabulary materials for teaching and learning ESP. The first step that teachers should do is to determine the technical vocabulary which pertain to the specific academic discipline. The second step is to create vocabulary quizzes which can be accessible by any Web browser for ease of learning. And, the third step is to create a Web-based dictionary to reinforce the mastery of the technical vocabulary.

II. Discussion
II. 1. Determining the Technical Vocabulary Using Range

The first thing to do in determining the technical vocabulary is by choosing the passage related to the specific subject. The passage can be taken from a subject-specific textbook, a magazine, or a newspaper. It is more comfortable if the passage is taken from an online source. However, the passage must be copied, pasted, and saved in an MS-Word and .txt formats.

The passage saved in the .txt format can then be run using Range[1]. This programme has several functions. One of them is to filter the non-technical words, using the three stop lists. The first word list includes the most frequent 1000 words of English. The second includes the second 1000 most frequent words, and the third includes words not in the first 2000 words of English but which are frequent in upper secondary school and university texts from a wide range of subjects. The first 2000 words which are in the first and the second word lists, have been taken from *A General Service List of English Words* by Michael West (1953). The third word list, containing 570 word families, is taken from *The Academic Word List* by Coxhead (1998, 2000).

After Range is installed in the computer, follow these steps to run Range:
1. Double click on the RANGE icon in Windows explorer
2. Open the File menu in RANGE and choose the heading Open.
3. Select the file you want to run the program over.
4. After you have selected the files, go to the File menu again and choose Save. Type the name of the file that you want to save the results to.
5. Look at the list of options at the bottom of the RANGE window. You can change these options or leave the options as they are.
6. Click the button Process Files which is below the file list in the RANGE window.
7. Look at the results file using MS-Word. The result file is the name you chose plus _range.txt.

In the result file, you can see a list of the words which are not in the stop lists. This can be considered the technical vocabulary. However, proper names, such as names of people, companies, etc., must be excluded.

II. 2. Creating e-Vocabulary Quizzes Using Hot Potatoes

After obtaining the list of technical vocabulary, e-vocabulary quizzes can be created using Hot Potatoes[2]. Actually, Hot Potatoes suite is a set of six authoring tools. For practical reason, only one authoring tool is described in this paper, i.e. JQuiz. The presentation, however, will include the Cloze test and Crosswords tools. JQuiz is a tool for making question-based exercises. Each quiz can consist of an unlimited number of questions. There are four basic question types, one of them is multiple-choice questions (MCQ). In the MCQ, the student chooses an answer by clicking on a button. If the answer is correct, the button caption will change to a smiley face :-), and if it is wrong, it will change to an X (these standards can be configured in the configuration screen). In either case, the student can see feedback specific to that answer, explaining why it is right or wrong, if you write the feedback when you make the exercise.

In general, there are three main steps in creating an exercise: (1) entering data, (2) configuring the output, and (3) Creating Web pages.

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[1] RANGE can be downloaded from *http://www.vuw.ac.nz/lals/staff/paul_nation/nation.aspx*

[2] HOT POTATOES is created by the Research and Development team at the University of Victoria, Humanities Computing and Media Centre (http://web.uvic.ca/hrd/hcmc/).

II. 2. 1) Entering Data

After Hot Potatoes is installed, it has to be registered at http://web.uvic.ca/hrd/hotpot/register.htm. It is necessary to register the programme so that there are more questions can be created. The user name and password will be sent by email.

Once the user name and password are entered, the JQuiz programme can be started by clicking the icon, and an interface like the one below will appear.

Look at the picture below, and type in the information:

1. Type the title in the title box.
2. Type the question in the question box.
3. Make sure that "Multiple-choice" is selected in the drop-down list box to the right of the question. This defines the type of question you want to make.
4. Type the answers in the boxes on the left, and the feedback on the right. Note that each answer, right or wrong, has its own feedback.
5. Check the "Correct" checkbox next to answer B.
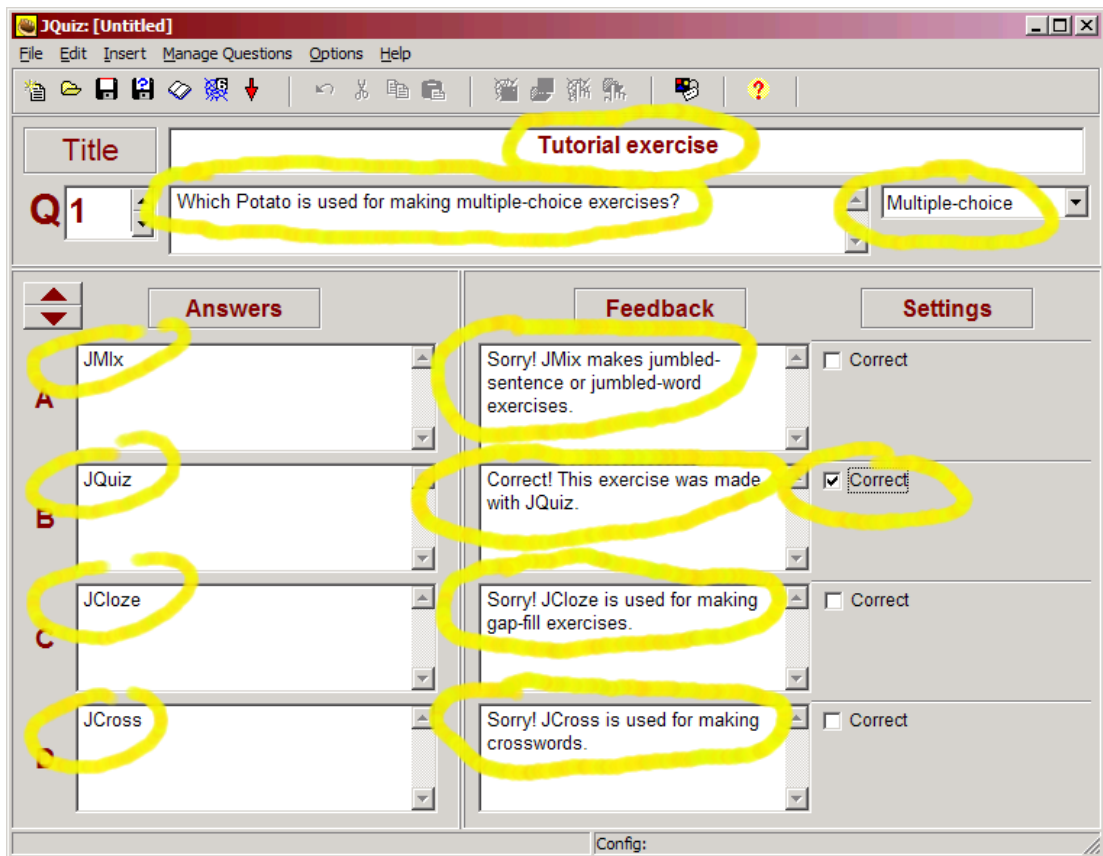
II. 2. 2) Configuring the Output

The configuration information is a collection of pieces of text, including instructions for doing the exercise, button captions, and link URLs, which are unlikely to change much from one exercise to another.

From the above image, we can see that the exercise had a title, a subtitle, and some instructions at the top of the page. The title of each exercise is likely to be unique. However, the subtitle (e.g. "Multiple-choice exercise") and the instructions ("Choose the correct answer for each question") can be changed, if necessary. Another important configuration is the time limit for the exercise which can be tailored to every exercise.

To change the configuration, first, click on Options / Configure Output to get to the configuration screen. The first tab, labelled Titles/Instructions, holds the exercise subtitle and instructions. Type some text in, as in the example below, then press OK.
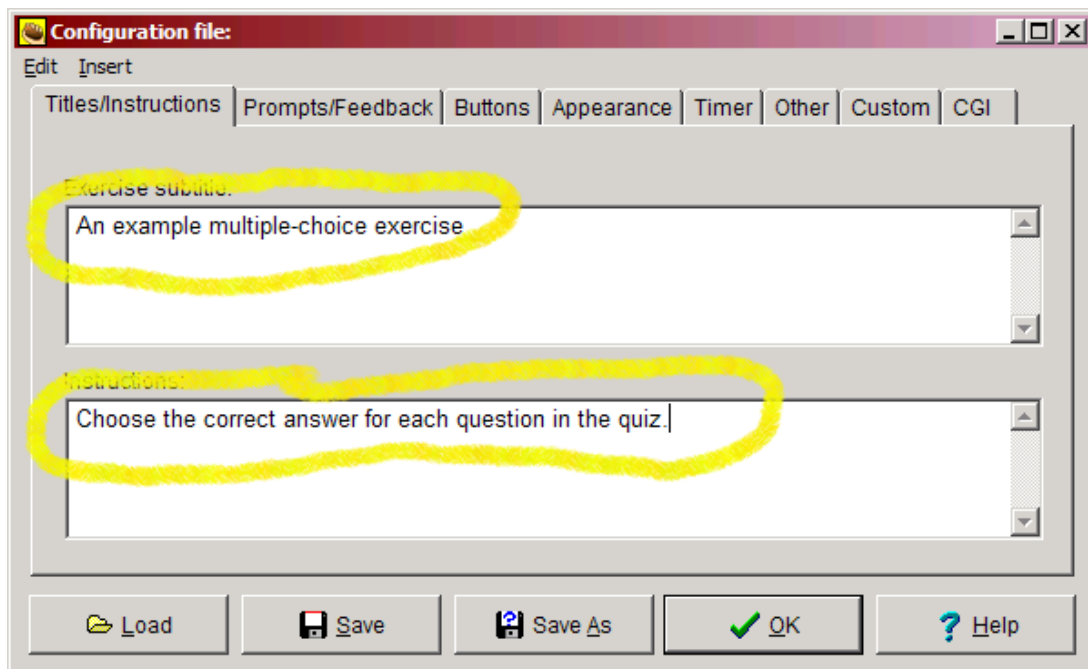
Another important label id the Timer, in which you can configure the time allowed to do the exercise. The time duration is in minutes and/or seconds.

II. 2. 3) Creating a Web Page

The final step is to create a Web page from the data. This can be done by simply click on Create Web page / Web page for v6 browsers from the File menu, then give the page a filename.
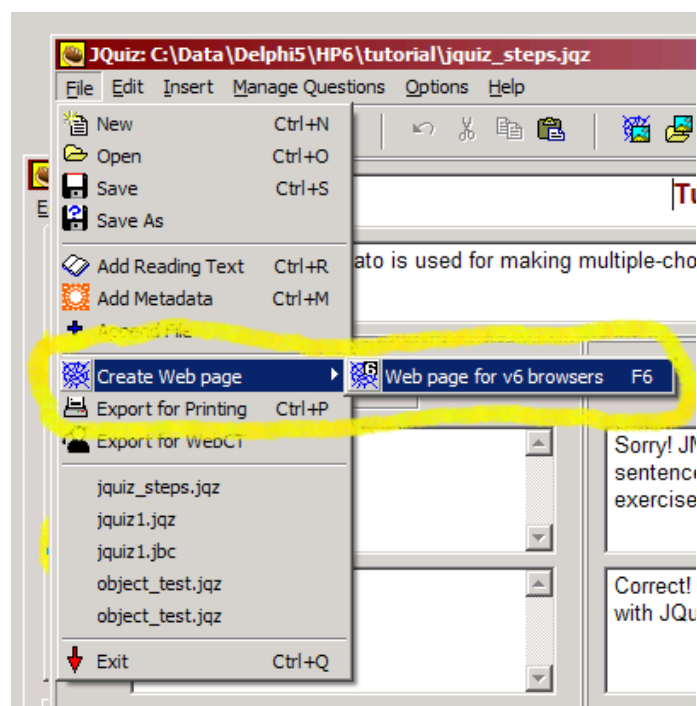
III. 3. Creating e-Dictionary Using the FrontPage Programme

The list of technical vocabulary which is obtained from the first step, can further be used in making a simple e-dictionary. Actually, the best way to create an e-dictionary is by using MySQL and PHP. However, the programming is complicated and time-consuming. Therefore, they are not discussed in this paper. However, the discussion is focused on using FrontPage which is a lot easier and simpler. The main concept is the e-dictionary explained here uses a JavaScript to show the definition of each word. However, it is not a must for teachers to know the programming language of the JavaScript.

The main steps to create the e-dictionary are as follows:

1. Open the Microsoft FrontPage programme. You should choose the **Normal** view.
2. Type the title of your page, e.g. e-Dictionary for Students of Economics at Airlangga University, then click enter.
3. Click the **Table** menu, point to **Insert**, and then click **Table**. In the **Rows** box, type the number of rows you want, e.g. 2. In the **Columns** box, type the number of columns you want, e.g. 5. In the **Alignment** box, select the position for the table on the page, e.g. center. Finally, click **OK**.
4. Click in the first cell, then switch to the **HTML** view, and you will see the following:
    `<td width="20%"> </td>`
5. After the semi-colon (;), type the following:
    `<INPUT onclick="alert('……..')" type=button value=……`
6. The dots between the quotation marks represent the definition, while the dots after the equal sign (=) represent the technical word. Therefore, if you want to define the technical accounting word *hedge* as *a contract entered into or asset held as a protection against possible financial loss*, it should look like this:
    `<INPUT onclick="alert(' a contract entered into or asset held as a protection against possible financial loss ')" type=button value=hedge`
7. Click the **Normal** view again to see the result.
8. Click in the second cell, then switch to the **HTML** view. Now, you can type the definition and the technical word again, as in number 6, and so on.

III. Conclusion

Vocabulary learning is central to language acquisition. It is even becoming more important to comply with the needs of students studying a particular discipline. English teachers should give the students the words which are really important for their studies. Therefore, it is necessary for teachers of ESP to compile a word list which comprises the technical vocabulary. To keep abreast with the development of technology, it is also necessary for teachers to provide e-learning materials. However, as shown in this paper, e-learning materials can actually be created by anyone, even with a basic knowledge of computer language.

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