

Student-Generated Vocabulary Tests as a Way of Fostering Autonomy

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Abstract Students at the advanced level of foreign language study often find it difficult to get motivated to work on their vocabulary development, because they believe that the knowledge of lexis they have at this stage makes it possible for them to express most meanings. They also know most, if not all, of the high frequency words and thus should concentrate on low frequency and academic vocabulary. Such vocabulary is more difficult to acquire due to the fact that items belonging to those two categories do not appear often enough in the input to which students are exposed to be learned incidentally. Because of this, some degree of explicit learning seems necessary. One of the many ways of motivating students to concentrate on vocabulary that a teacher can use is systematic review and testing. Even in this case, however, students often believe that the knowledge they already possess will be enough to get at least a pass mark. The present paper describes a procedure in which it is the students themselves who are responsible for selecting vocabulary items to be tested as well as providing their definitions and example sentences. As a result, a database of items is created from which tests and other materials can easily be generated. It is believed that in this case it is the process of working on the database rather than test-taking which is more valuable not only as a tool for vocabulary development but also as a way of fostering students' autonomy.

1 Introduction

Although the place of vocabulary in different language teaching methods has been changing over the years with either vocabulary or grammar taking the primary role, it seems that in recent decades the importance of vocabulary has been firmly established as can be illustrated by the often quoted statement by Wilkins (1972, p. 111):

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“While without grammar little can be conveyed, without vocabulary nothing can be conveyed”. Further support for the centrality of vocabulary has been provided by Lewis (1993, 1997) in his publications advocating the Lexical Approach. Some authors even suggest that “[w]e teach grammar only to learners who have already developed a substantial lexical base” (Ellis, 2002, p. 31). At the advanced level of language proficiency, especially when English is used for academic purposes, extensive knowledge of vocabulary is particularly important and lexical errors are often rated as very serious by university teachers (Santos, 1988). At the same time, however, expanding one’s lexicon at this level is not easy as what remains to be learned are mostly low frequency words, collocations, idiomatic expressions and lexical chunks (Marton, 1977). It is believed that incidental learning through extensive reading and listening is the best way for advanced students of EFL to develop their knowledge of lexis. However, in order to increase its effectiveness in moving the new vocabulary items into productive use, some degree of explicit learning is also recommended. One of such techniques is creating a database of vocabulary items under study and using it to practice, revise and test these items. This can be done by the students on their own as a form of self-assessment or by the teacher as part of classroom testing. The procedure will be described in detail in Sect. 3 of this paper.

2 Vocabulary Learning and Teaching and Types of Vocabulary Items

2.1 Defining Vocabulary

When discussing the process of vocabulary teaching and learning, it is necessary to start with a presentation of some of the difficulties we encounter when trying to say what is meant by vocabulary. Traditionally, vocabulary learning meant learning words, but today we more often talk about learning *vocabulary items*. This is partially caused by problems involved in trying to define what a word is. When looking at written texts we can apply an orthographic definition of a word which states that “a word is any sequence of letters (and a limited number of other characteristics such as a hyphen and apostrophe) bounded on either side by a space or punctuation mark” (Carter, 2012, p. 20). This definition, although practical and appealing to our common-sense understanding of the term, is not without its limitations. First of all, it cannot be used to define words in spoken language production. To deal with this problem, Carter puts forward another definition stating that a word “will not have more than one stressed syllable” (Carter, 2012, p. 22). More importantly, however, the orthographic definition of a word does not allow us to decide if in pairs such as *foot/feet*, or *sleep/slept* each item should be treated as a different word. This definition is also not very helpful when dealing with polysemic words, such as *bank*, *issue* or *treat*, as it does not specify if each of the different meanings of such words should be counted separately. The matter is further

complicated by the existence of items such as *the day after tomorrow*, *stock market* or idiomatic expressions such as *kick the bucket*. One of the ways of avoiding some of the problems mentioned above is to use the term *lexeme* (or *lexical unit* or *lexical item*) to refer to “an item that functions as a single meaning unit, regardless of the number of words it contains” (Schmitt, 2000, p. 2). In more general discussion the terms *word* or *vocabulary* are still used as “[i]t is clear that the uses of words *word* or *vocabulary* have a general common-sense validity and are serviceable when there is no real need to be precise” (Carter, 2012, p. 23).

Vocabulary items are often divided into two major categories: *single words* and *multiword units* (MWUs). The first group includes “freestanding items of language that have meaning” (McCarthy, 1990, p. 3) and can be further subdivided into basic roots such as *pen* or *ugly*, derived words, such as *disapprove* or *unbelievable* and, for some authors (McCarthy, 1990), compound words, such as *coursebook* or *lampshade*. Multiword items have been categorized differently by different authors but they usually include compound words, phrasal verbs, fixed phrases, idioms, proverbs, and lexical phrases (Schmitt, 2000, p. 99).

2.2 *How Many Words Do We Need to Know?*

It is estimated that a five-year-old native speaker of English knows about 4000–5000 word families and that every year around 1000 word families are added until the size of an educated university graduate reaches 20,000 word families (Nation & Waring, 1997, p. 7). The size of vocabulary a learner of English as a second language should reach depends to a large extent on the goals set by this learner but there seems to be a general agreement that knowing the most frequent 2000 words is necessary for basic language use. For reading at the intermediate level the knowledge of over 3000 is required (Schmitt, 2000, p. 150) and between 6000 and 9000 word families needed for full comprehension of most texts (Nation, 2013, pp. 14–16).

2.3 *Knowing a Word*

Knowing a word involves knowing its form, meaning and use. When we know the spoken form of a word we are able to recognize and understand it when we see it printed and spell it correctly when we use it in writing. The knowledge of the spoken form involves the ability to recognize the word when we hear it and to pronounce it correctly, including appropriate word stress, when we speak. Some researchers (e.g., Nation, 2001, 2013) include knowing the constituent parts of the word under the heading of form. The second aspect of word knowledge is its meaning, usually considered to be the most important and at the same time the most complex part of knowing a word, as many words have more than one meaning and

often the boundaries between meanings of words in learners' L1 do not correspond to those in L2. The final aspect of knowing a word is the ability to use it, which encompasses the knowledge of grammar patterns the word can occur in, its collocations and restrictions on use (Nation, 2001, p. 27, 2013, pp. 82–84). When learning new verbs, for example, we should find out if they are regular or irregular, transitive or intransitive, followed by the infinitive, the *-ing* form, or a preposition. Similarly, when learning nouns, we should also learn if they are countable or uncountable or if their plural is regular or not (Gairns & Redman, 1986, p. 45). Since words rarely appear in isolation, we should know what other words they collocate with so that we know that we *answer the phone*, *take pictures* or *carry out experiments*. Collocations are quite difficult to learn as they are fairly arbitrary and differ from language to language. What makes learning them additionally difficult is their lack of saliency as very often they are quite easy to understand. As a result, learners do not notice them and in language production often follow the patterns of their L1. Learners should also know when to use or not to use a given word depending on its style (i.e., formal or informal) and register.

2.4 Receptive and Productive Vocabulary Knowledge

An important distinction that should be made when talking about vocabulary learning, teaching and testing is that between *productive* and *receptive knowledge* of words, sometimes referred to as *active* and *passive*, respectively. The receptive knowledge involves being able to recognize and understand a word when we come across it during listening or reading, while the productive one enables us to use words in our speech and writing. Typically, receptive knowledge precedes productive knowledge so we first learn to understand a word and only later do we learn to use it. It is also assumed that we know more words receptively than productively, although research in this area is rather limited and inconclusive. The review of some studies in the field carried out by Melka (1997) indicates that the difference may in fact be quite small with as much as 92 % of receptive vocabulary being available for active use. Laufer (2005), on the other hand, claims that the relationship between the two kinds of vocabulary knowledge depends on the proficiency level. According to her research, as much as 35 % of receptive vocabulary is known productively at the 2000 frequency level with the number dropping to 16 % at the 5000 level. In other studies surveyed by Schmitt (2010), the numbers given for receptive vocabulary known productively fall within the 50–75 % range. Schmitt (2010) sees the reasons for these discrepancies in research results in the differences in the way that vocabulary knowledge is measured and in the ways the notions of receptive and productive vocabulary are defined. Let us look at the second issue first.

The terms *receptive* and *productive* are operationalized differently by different researchers. For Melka (1997), the receptive and productive mastery of vocabulary

can be seen as a continuum, with items moving from the receptive end of the scale towards the productive one as more knowledge about them is acquired. It is not clear, however, where the threshold beyond which receptive knowledge turns into productive one is (Read, 2000). According to Meara (1997), what differentiates receptive and productive vocabulary is the way in which the items belonging to each of the two categories are connected with other words. Productively known items are linked to many other words and can thus be activated by these words. Receptively known vocabulary is not connected to other items in the mental lexicon and has to be activated by an external stimulus such as its written or spoken form.

The issue is further complicated by the fact that at any given time different aspects of vocabulary knowledge can be known to a different degree and a learner's knowledge of these aspects may be at different points on the receptive/productive scale. A student can, for example, know the written form of a word both receptively and productive (i.e., he or she can both recognize the word in print and write it) and at the same time know its spoken form only receptively (i.e., he or she is able to recall and understand the word when hearing it but is not able to pronounce it yet). According to Schmitt, (2010, p. 82) “[i]n general, one would expect that the ‘contextual’ word knowledge aspects, like collocation and register, are especially likely to lag behind in reaching a productive state, as this type of knowledge requires a great deal of exposure to acquire”. Both teachers and learners should thus bear the distinction in question in mind when taking decisions about which words and their aspects should be learned for productive and which for receptive purposes.

2.5 Selecting Vocabulary to Be Taught and Learned

Several criteria have to be taken into consideration when selecting vocabulary content of a language course, including frequency and range, learnability, learners needs and level, usefulness, expediency and cultural factors (Gairns & Redman, 1986, McCarthy, 1990, Ur, 2012). When deciding which vocabulary items to teach and learn, using the four vocabulary levels of high-frequency, academic, technical and low-frequency words is often recommended (Nation & Chung, 2009, p. 545). *High-frequency words* comprise about 2000 most common word families identified initially by Michael West and published in 1953 as *A General Service List of English Words*. The major drawback of the list is the fact that it is quite old and includes some words which are not used that frequently anymore while at the same time it lacks many common contemporary words such as *computer* or *website*. The list needs updating also because it was based on written texts and does not include many words that are typical of spoken discourse. Many new lists of the most frequent vocabulary items are nowadays easily available online with *Oxford 3000* and *English profile* being just two examples (Ur, 2012, p. 65). Both teachers and learners should make these high-frequency words their priority in the classroom, especially at the beginning and intermediate level of language proficiency. Students who plan to undertake academic courses in English should then turn their attention

to *academic words*, that is words commonly found in different texts dealing with a variety of academic disciplines. A list of 570 such word families was compiled by Coxhead (2000). The list is divided into 10 numbered sublists on the bases of the frequency of use of the words. Sublist 1 includes the most frequent words (e.g., *estimate, economy, concept, context* and *distribute*) while sublist 10 includes those which are the least frequent, such as *adjacent, albeit, notwithstanding, ongoing* or *integrity*. *Technical words*, unlike academic words, are closely associated with one specific discipline and the decision to learn these words will depend on students' needs. Students of medicine will probably need to learn such words as *hypodermic, coronary* or *anesthetic*, while students of music will find words like *clef, interval* or *vibrato* more useful. Technical vocabulary is crucial for understanding specialized texts as it constitutes 20–30 % of the running words of such texts (Nation & Meara, 2010, p. 37). Finally, *low-frequency words* are the words which do not fit into the above categories. They are “so infrequent, have such a narrow range of occurrence and make up such a large group that they do not deserve teaching time” (Nation & Meara, 2010, p. 37). These words, however, “may need to be learned, so that learners can reach the 98 % coverage of text required for unassisted language use” (Nation & Chung, 2009, p. 548).

Schmitt and Schmitt (2014) propose a different division of vocabulary based on frequency distinguishing between *high frequency words* (3000 most frequent word families, including many items from the *Academic Word List*), *mid-frequency words* (3000–9000) and *low frequency word* (beyond the 9000 frequency level).

2.6 Vocabulary Acquisition

Research on the process of vocabulary acquisition is still inconclusive. As Nation (1995, p. 5) puts it,

(...) there isn't an overall theory of how vocabulary is acquired. Our knowledge has mainly been built up from fragmentary studies, and at the moment we have only the broadest idea of how acquisition might occur. We certainly have no knowledge of the acquisition stages that particular words might move through. Additionally, we don't know how the learning of some words affects how other words are learned. There are still whole areas which are completely unknown.

Two main processes are involved in vocabulary acquisition: *explicit/intentional learning* and *incidental learning*, and ideally both should be integrated into a well-designed language course through a combination of activities. Nation and Meara (2010, p. 38–41) suggest that these activities should fall into the following four strands: learning from meaning-focused input and output, deliberate vocabulary learning using techniques such as word cards and developing fluency through activities integrating the four skills.

Hunt and Beglar (2002) formulated seven principles for involving incidental learning, explicit instruction and independent strategy development. For incidental learning to take place, learners must be provided with opportunities to be exposed to new vocabulary through extensive listening and reading. Explicit instruction should start with a needs analysis establishing which of the 3000 most frequent words need to be taught. These words should then be made available for students through presentation, elaborating word knowledge and activities aiming at fluency development. Finally, strategy development should involve practicing guessing from context and dictionary training. It is generally agreed that at the lower level of language proficiency, when students are still acquiring the most frequent words, explicit instruction is more efficient while incidental learning through extensive reading and listening is considered to be more suitable for more advanced learners.

2.7 Testing Vocabulary

Nation and Meara (2010, p. 44) identify the following goals of vocabulary testing:

- to measure vocabulary size;
- to measure what has just been learned;
- to measure what has been learned in a course;
- to diagnose areas of strength and weaknesses.

Regardless of their aim, most vocabulary testing techniques measure the size of students' vocabulary—how many words from a frequency list or a coursebook unit they know, thus concentrating on the *breadth* rather than *depth* of knowledge.

In *The Vocabulary Levels Test* (Schmitt, 2000, pp. 192–200), learners must match words with their meanings. The test is divided into levels of difficulty. The following examples are taken from the 2000-word level (A) and the 10,000-word level (B) of the test:

A:	1. birth	
	2. dust	... game
	3. operation	... winning
	4. row	... being born
	5. sport	
	6. victory	
B:	1. auspices	
	2. dregs	... confused mixture
	3. hostage	... natural liquid present in the mouth
	4. jumble	... worst and most useless parts of anything
	5. saliva	
	6. truce	

The Vocabulary Size Test, devised by Nation and Beglar (2007) consists of 140 multiple choice items including samples from the list of 14,000 most frequent word families, as in the example below (2007, p. 11):

1. Innocuous: This is innocuous
 - a. cheap and poor in quality
 - b. harmless
 - c. not believable
 - d. very attractive looking

The test measures receptive knowledge of vocabulary and is not indicative of the takers' ability to use the words productively while speaking and/or writing.

There are relatively few techniques which can be used to assess the depth of knowledge. Two examples are provided below. The aim of the first technique is to check if students know the meaning of the word and its collocations. The second technique is based on the students' ability to self-assess their knowledge and can be used to raise awareness of the processes involved in vocabulary acquisition, pointing to the degrees of word knowledge.

Example 1 Choose four words that go with the test word. Choose at least one from each of the two boxes:*sudden*

beautiful quick surprising thirsty	change doctor noise school
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(Read, 1995, after Nation, 2001, pp. 344–345).

Example 2 Rate your knowledge of the target word. If you choose (d), please compose a sentence using that word.

expand

- a. I don't know this word.
- b. I have seen this word before but am not sure of the meaning.
- c. I understand the word when I see or hear it in a sentence, but I don't know how to use it in my own speaking or writing.
- d. I can use the word in a sentence.

(Scarcella & Zimmerman, 1996, after Schmitt, 2000, p. 170).

Other popular techniques more commonly used by language teachers to test vocabulary include multiple-choice tests, filling in gaps, matching, translation, cloze and selective/open cloze, C-tests, making up sentences with new words, writing a story using selected words or describing pictures. Considering the complexity of vocabulary knowledge, it is perhaps advisable that teachers should use a variety of assessment techniques, thus making sure that the different aspects of word knowledge are taken into account.

3 Advanced Students as Independent Vocabulary Learners

The idea of autonomous, independent learning without institutional support is not new but the term *autonomy* has been used with reference to language teaching for only about 40 years while its history in the context of education in general is much longer (Benson, 2011, pp. 9, 26–57). A variety of definitions of the notion of autonomy can be found in the literature on the subject and different authors emphasize different aspects of the concept. For the purposes of this paper, Benson’s definition of autonomy as “the capacity to take control of one’s own learning” (2011, p. 58) seems particularly suitable, as especially at the advanced level of language proficiency vocabulary development requires active student involvement.

Nation (1998, p. 9, 2013, pp. 583–584) addresses the issue of autonomous vocabulary learning with reference to three factors of *attitude* (i.e., willingness to take responsibility for learning), *awareness* (i.e., ability to reflect on actions taken and knowledge of other options available) and *capability* (i.e., having the necessary skills to take control of the learning process). He further develops the notion of capability by providing seven principles of vocabulary learning which can lead to the development of autonomous learning of lexis. Four of these principles are provided below (Nation, 1998, pp. 10–11, 2013, pp. 584–586):

1. Learners should know what vocabulary to learn, what to learn about it, how to learn it, how to put it to use, and how to see how well it has been learned and used (...)
2. Learners should continue to increase their vocabulary size and enrich the words they already know (...)
3. Learners should use word frequency and personal need to determine what vocabulary should be learned (...)
4. Learners should be aware of what is involved in knowing a word and should be able to find that information about particular words (...)

As has been said above, vocabulary development is a complex process and, especially at the more advanced levels, requires systematic, intentional effort. In order for this effort to be efficient, students should be familiar with vocabulary learning strategies they can use to discover a word’s meaning and to consolidate the knowledge of the word (Schmitt, 1997, pp. 207–208; Nation, 2013, pp. 326–345), and encouraged to use them regularly. In their overview of recent research on vocabulary learning strategies, Nyikos and Fan (2007) conclude that successful language learners display an independent, active approach to vocabulary learning, systematically practicing and reviewing words outside the classroom and that “instruction in metacognitive self-regulatory strategies allows students to better monitor their use of guessing, inferencing, repetition, and focused attention strategies significantly improving general student performance and vocabulary acquisition” (2007, p. 273).

4 Creating and Using a Vocabulary Database

4.1 *From Teacher-Generated to Student-Generated Tests*

The procedure for organizing and learning vocabulary described in the present paper is an extension of a technique introduced as part of a listening/speaking module of an EFL course for 1st and 3rd year students of a teacher training college over the years 2008–2012. It was first used as a way of testing vocabulary covered during the course with the teacher choosing the items to be included in the database as well as their definitions and examples of use. However, the format of the database allows for it to be used as a much more learner-centered instrument with the students gradually selecting all of its contents. What is more, the database can be used by individual students independently of classroom instruction as a way of creating their own sets of vocabulary items they wish to learn.

4.1.1 Test Format

The format of the test used here is a variation of the gap-fill technique—the students are provided with a gapped sentence and have to complete it with an appropriate word. To make the task easier and to increase the possibility of a specific word being used, a dictionary definition of the word is also provided. A typical test item looks like in the example below:

The two athletes are for the gold medal.

(to take part in an event or game)

The format elicits productive knowledge of the items tested, although not all aspects of that knowledge need to be mastered to complete the test. In the example provided above students do not have to have a full grasp of the grammar of the word as the preposition it takes (*for*) is given. A similar technique of vocabulary revision and testing is used in such programs as *Anki* and *SuperMemo*.

4.1.2 Teacher-Generated Tests

In a more teacher-centered approach, the database can be compiled by the teacher, who selects vocabulary items from texts covered in class and chooses example sentences and definitions from popular learner dictionaries. The database can then be expanded as new material is introduced. The students should be made familiar with the format before they take the test and the teacher can go through sample items during class as a way of reviewing vocabulary. It is recommended that students are told which dictionary or dictionaries the examples and definitions will be taken from, as this may encourage them to use the dictionaries on their own. The aims of introducing the procedure are manifold and include:

- encouraging students to study vocabulary in a systematic way;
- encouraging students to use good monolingual dictionaries, including the extra examples they provide;
- raising the students' awareness of the importance of the context in learning vocabulary.

The major drawback of the above approach is the fact that it may turn out to be quite difficult for the students, especially those unwilling to change their vocabulary learning habits, as was the case when the test was first used with college students. Many of them either did not make any vocabulary notes at all or only made lists of new vocabulary items with their Polish equivalents. To make the task easier for the students, the whole database can be made available to them before the test. This approach, however, does not make it necessary for the students to use dictionaries on their own as most of the work is done by the teacher. As a result, the second goal of the procedure is not met.

4.1.3 Student-Generated Tests

In order to encourage students to take control of the learning process, the teacher can ask them to compile the database on their own. In this way, the focus is shifted from testing to learning and the students take on the responsibility for preparing the materials. Successful implementation of the procedure described above requires dealing with a variety of problems, such as assigning roles and responsibilities to individual students and groups of students, meeting deadlines, making decisions about item selection and evaluation of word definitions and example sentences chosen by the students. An additional problem may arise when students do not have sufficient computer skills to create, share, and manage the database. In this case, however, the experience may have an extra advantage of encouraging them to work not only on their vocabulary but also on their IT skills.

4.2 Description of the Database

The idea of involving students in generating vocabulary tests for themselves is based on the assumption that if they are given a simple tool which will do most of the hard work for them, they will be motivated to build a database of vocabulary items and use it to produce practice materials and tests, and then work on the new vocabulary using the materials they have produced. A database of vocabulary items is understood here as a table (or a collection of tables) containing the studied language material structured to facilitate actions such as updating, sharing, and producing various documents with the use of mail merge. The tables with collected vocabulary items with definitions and examples are used as data sources to create

tests, test keys, study slides, index cards and possibly other materials using mail merge templates. A typical data table may have the following structure:

- vocabulary item;
- example sentence broken into three parts:
 - Sent_left;
 - Sent_middle (vocabulary item as used in the example sentence);
 - Sent_end;
- definition;
- item number.

as shown in the following example:

Number	Item	Sent_left	Sent_middle	Sent_end	Defi
036	compete	The two athletes are	competing	for the gold medal	to take part in an event or game
011	emit	Sulphur gases were	emitted	by the volcano	to send out a beam, noise, smell or gas
010	abandon	The baby had been	abandoned	by its mother	to leave a place, thing or person forever
037	chase	She was	chasing	after a man who had snatched her bag	to hurry after someone or something in order to catch them
027	rank	She is currently the highest	ranked	player in the world	to have a particular position in a list of people or things

The mail-merge facility available as standard in all the recent versions of Word for Windows works with data tables stored as files in one of the following formats:

- Word .doc .docx file;
- Text .txt .csv file;
- Excel .xls .xlsx worksheet;
- Access table or query.

Another document that is essential in the mail-merge process is a *mail-merge template*, which includes information on exactly where the data from the table are inserted in the generated document, which text appears exactly as we typed it, what attributes the text will have, what will be the layout of the paragraphs, which

paragraphs are to be numbered automatically, etc. The mail-merge template types that are of interest here are the *catalog* and *label*. Figure 1 illustrates a template for a test shown in its full format later on in this text. It is important to note that the names of the placeholders correspond to the column labels in the data table and that the only text that was actually typed by the person creating the template are the dots in the gap (and the spaces) and the parentheses enclosing the *Defi* placeholder. The number (including the dot and the bold attribute) is generated automatically. The template, then, shows a pattern for one test item—the entire test is generated with the data from the table on the basis of this one pattern. Figure 2 shows the template filled with data from the table.

After creating a mail-merge template and specifying a data source for it, a target document can be produced, which in most cases is a regular document which can be saved, printed, edited further and so on. Usually, rather than editing the target document, the template is re-edited and re-generated until it is acceptable. If necessary, or otherwise desirable, the source data table may have more columns for additional information on the item or the data associated with it, such as:

- Polish (native language) equivalent(s);
- source of item (unit, text, etc.);
- source of definition (dictionary);
- source of example (dictionary, text);
- comment(s);
- student specific data;
- technical and/or administrative data.

Fig. 1 Template with empty placeholders

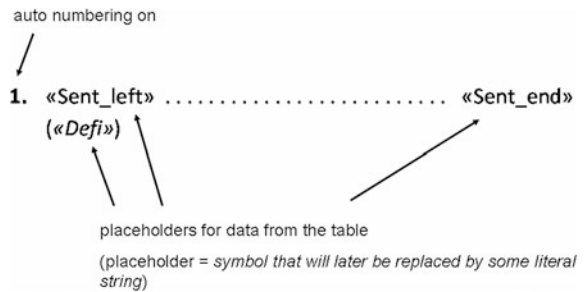
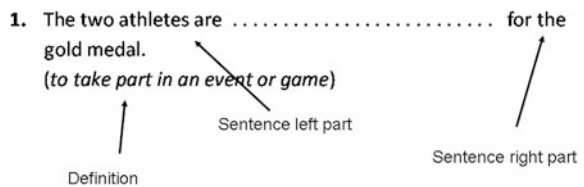


Fig. 2 Template with placeholders filled with data for the first item



4.3 *Types of Materials Which Can Be Generated Using the Database*

Materials which can be generated automatically from the data tables include:

- test, produced as
 - a document to be printed;
 - *Power Point* slides;
 - a web page;
- key;
- *Power Point* ‘learning mode’ slides;
- index cards.

4.3.1 Tests and Answer Keys

The most common format of the test which can be generated using the database is a regular printed test accompanied by a printed key. In order to facilitate test reliability, two or more versions of a printed test can be generated from the same data table with different items or with the same items in a different order. An example test fragment is shown below (all the examples and definitions come from *Longman Dictionary of Contemporary English*).

1. The two athletes are for the gold medal.
(to take part in an event or game)
2. Sulphur gases were by the volcano.
(to send out a beam, noise, smell or gas)
3. The baby had been by its mother.
(to leave a place, thing or person forever)
4. She was after a man who had snatched her bag.
(to hurry after someone or something in order to catch them)
5. She is currently the highest player in the world.
(to have a particular position in a list of people or things)

The two answer key formats which can be easily generated from the database can take the forms illustrated in Figs. 3 and 4.

A test produced as a slide presentation features regular test items shown on a separate slide each, with an appropriate number heading and possibly color or other

1. compete	2. emit	3. abandon
4. chase	5. rank	

Fig. 3 Answer key format 1—words only

1. The two athletes are **competing**.for the gold medal.
2. Sulphur gases were **emitted**.by the volcano.
3. The baby had been **abandoned**.by its mother.
4. She was **chasing**.after a man who had snatched her bag.
5. She is currently the highest **ranked**.player in the world.

Fig. 4 Answer key format 2—complete sentences with the words highlighted

text attributes to facilitate readability. A test like that to be used in the classroom needs an answer sheet for the students to write on. Such an answer key may be produced separately also using mail merge. A series of four example test slides are shown in Fig. 5.

A ‘learning mode’ version of the slide test simply includes an additional ‘answer’ slide to follow each ‘test’ slide as shown in the example below for two vocabulary items. This version of the test can be used to practice vocabulary in class or individually by the students outside the classroom (see Fig. 6).

To facilitate quick transfer of a test generated as a Word document to Power Point:

- apply the style *Heading 1* to the number heading (*Question 1*);
- insert the number of merged record as a field;
- apply the style *Heading 2* to the question;
- apply the style *Heading 3* to the definition;
- transfer the document directly to *Power Point* by going to *File—Send to—Power Point*.

<p>Question 1</p> <ul style="list-style-type: none"> • The two athletes are for the gold medal. <p>– to take part in an event or game</p>	<p>Question 2</p> <ul style="list-style-type: none"> • Sulphur gases were by the volcano. <p>– to send out a beam, noise, smell or gas</p>
<p>Question 3</p> <ul style="list-style-type: none"> • The baby had been by its mother. <p>– to leave a place, thing or person forever</p>	<p>Question 4</p> <ul style="list-style-type: none"> • She was after a man who had snatched her bag. <p>– to hurry after someone or something in order to catch them</p>

Fig. 5 Examples of test slides

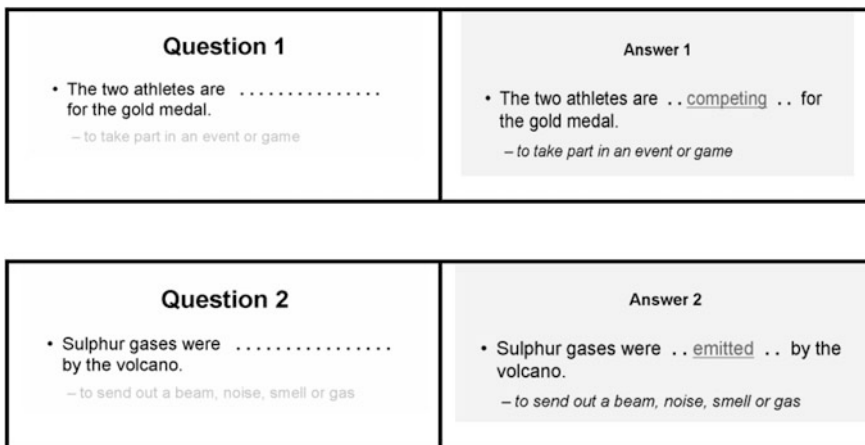


Fig. 6 Examples of “learning mode” slides

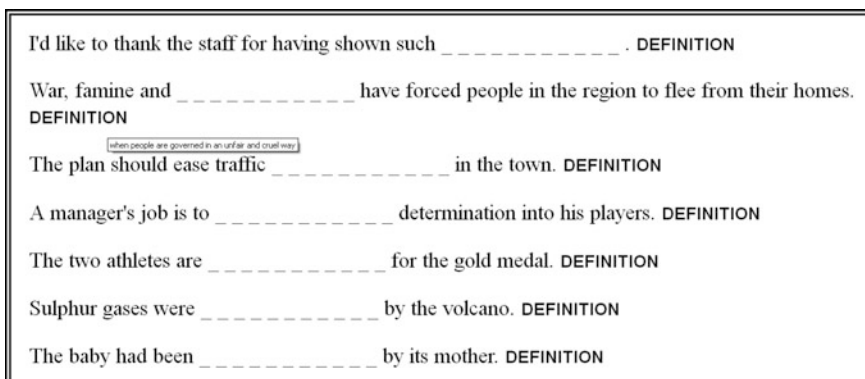


Fig. 7 A screenshot of a website

Students with some knowledge of html (the mark-up language used to format web pages) should be able to produce simple web pages including example sentences and the definitions showing in pop-up boxes when the mouse hovers over the definition as shown in the screen shot in Fig. 7.

This idea could be developed further if simple interactive features of web pages (html and java script) are taken advantage of as shown in the two example screenshots in Figs. 8 and 9.

The page is static and the ‘interactive’ element of the page is simply manipulation of font and background color. When the learner points to a dotted box with the mouse pointer to ‘check the answer’, the hidden word is shown red (the word *ranked* above). When the mouse pointer is moved away, the word disappears again (as in the second line above). The learner can ‘freeze’ the items she or he got wrong

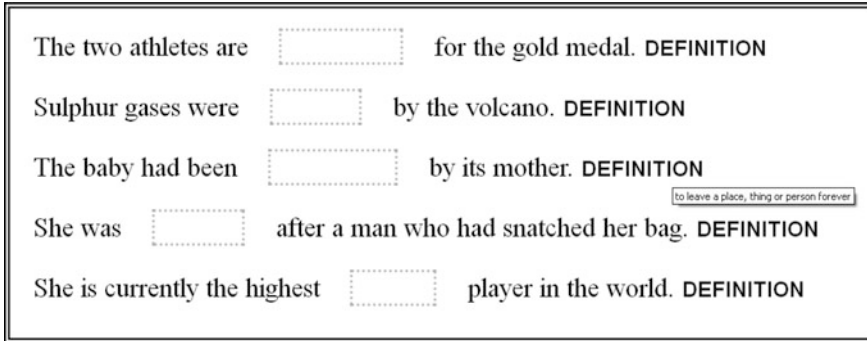


Fig. 8 Initial state of the page. The definitions show in pop-ups as before



Fig. 9 The learner looks at the examples and possibly checks the definition, tries to guess the word and checks the answer by pointing at the gap in the sentence

(or right) on the screen by clicking on the dotted box. Then the word appears white against a dark background (as shown for the words *competing*, *abandoned* and *chasing* above) and stays highlighted until the page is refreshed, at which point the learner may want to review the entire set or part of it at his or her individual pace. The template for the web page version as described above is given in Fig. 10.

A document generated using this or a similar, possibly more elaborate, template needs to be saved as text with an .htm or .html extension (and possibly with a proper web page header) and opened using a web browser. No Internet access is necessary. The Internet, however, could be a natural environment for materials created this way, especially if they are meant to be made available to users of mobile media.

```

<p style="font-size:30px"><<Sent_left><span
style="color:white">__</span>
<span style="color:white;outline:#00FF00 dotted medium";
onmouseover="this.style.color='red'";
onmouseout="this.style.color='white'">          <<Sent_middle>          </span><span
style="color:white">__</span>
<<Sent_end> <span style="font-family:Arial; font-weight:bold; color:blue; font-
variant:small-caps"; title='<<Def>'>definition</span></p>

```

Fig. 10 The template for the website

4.3.2 Index Cards

The same database can be used to prepare additional practice materials in the form of index cards, which are similar in format to envelope labels or conference name tags and can be generated using one of the standards label formats available in MS Office Word. Index cards may be one- or two-sided and—like tests—can include

- vocabulary items only;
- full sentences with vocabulary items highlighted;
- definitions;
- L1 equivalents;
- some or all of the above.

The index cards shown in Fig. 11 are a simple version featuring the vocabulary item and the dictionary definition.

All the materials presented above can be generated very quickly and easily once the database is started. The more items are added, the more challenging and interesting the learning and testing process becomes. If students are allowed to decide which items to include in the database, they are likely to feel empowered and in control of their learning.

Summing up, the database instrument for vocabulary learning presented above can be seen as a way of promoting autonomy through allowing students to take control of the process learning vocabulary by enabling them to:

- choose vocabulary items they want to learn;
- add definitions of the items they selected from a dictionary of their choice;
- find examples of sentences illustrating the use of the items they want to study using a variety of resources available (dictionaries, corpora, authentic materials);
- add more examples of their choice as they come across the new vocabulary items in the linguistic input they are exposed to (both written and spoken);
- add any information about the word they find interesting and/or useful;
- generate a variety of ways of revising vocabulary under study (tests, *Power Point* ‘learning mode’ slides, a semi-interactive mode web-page, index cards).

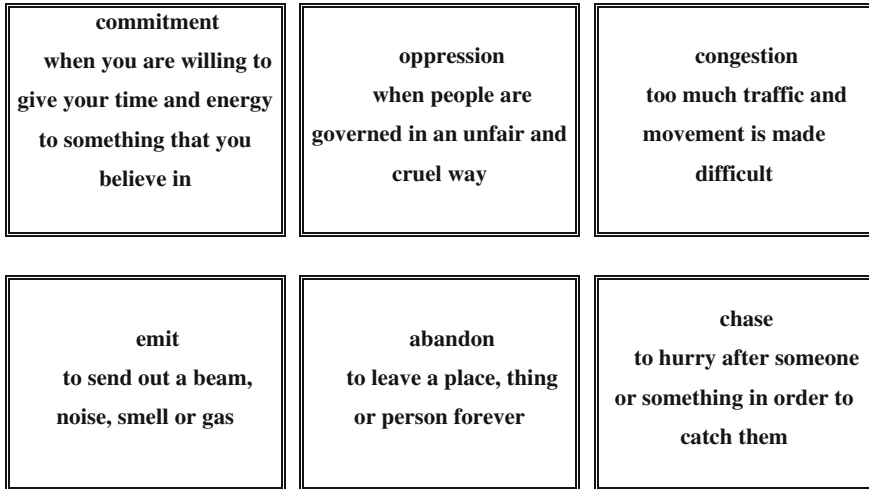


Fig. 11 Examples of index cards

5 Conclusions

Vocabulary learning is a complex, time-consuming and never ending part of the process of second language acquisition. Knowing a word involves a variety of aspects which cannot be mastered after a single encounter with the word and often even extensive exposure to language input through reading and listening is not enough, and should be supported by explicit, intentional study of vocabulary. The instrument described in the present paper offers students a way of gathering information on vocabulary items introduced in the language course they take and revising them in a variety of ways. It can also be used by teachers to generate tests with the extra advantage of students being aware of what to expect and how to prepare for tests. Needless to say, the test format described here should be treated as just one of the many options available to students and teachers and should be supplemented by a variety of learning and testing techniques to make the process of vocabulary acquisition as effective as possible.

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