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Multi-text materials for the LSP classroom

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Több szövegtípusból álló tematikus szövegválogatások használata a szaknyelvi órán

Összefoglaló

A szaknyelvet tanulók tanulmányaik során különböző műfajú és hosszúságú szaknyelvi szövegekkel találkoznak. A dolgozat ismerteti egy módszert, amelynek segítségével hosszabb szaknyelvi szövegek olvasását segíthetjük elő. Olyan szaknyelvi szövegválogatásokat mutatunk be (elsősorban mérnökhallgatók számára), amelyek azonos témáról szólnak, autentikus szövegeket és videófelvételeket tartalmaznak. A cikkek célközönsége és műfaja különböző, de a szókincs ismétlődik. Ily módon a nyelvtanulóknak kevésbé jelent nehézséget a hosszabb szövegek megértése. A szövegek összehasonlítása alkalmat ad a nyelvi és a szövegjellemzők kiemelésére, növeli a műfaji tudatosságot. Tudományos közlemények összefoglalói, eredeti szakcikk részletei jó bevezetésként szolgálnak a tudományos írásbeli publikáció megismeréséhez. A dolgozatban módszertani ajánlásokat teszünk a szaknyelvtanároknak arra vonatkozóan, hogyan állíthatnak össze több szövegből álló tematikus válogatásokat a tanulók szükségleteinek figyelembe vételével.

Kulcsszavak: szaknyelv, olvasásértés, szövegtípusok, tananyag

ABSTRACT

This paper introduces an idea for expanding student exposure to reading longer texts on ESP topics. It consists of sets of ESP materials (primarily for engineering) centering around a single topic, containing several authentic texts (and even videos) intended for different audiences (e.g. general, informed about science, academic). Since texts deal with the same topic (for instance, announcing a new material or technological advance) many words are repeated, but information is presented or highlighted differently, and comparing texts can help learners become aware of various language and text features. Because learners do not have to comprehend a new topic in each text they read, they can work with longer texts. In addition, reading abstracts or extracts of original journal articles can serve as a useful introduction to the academic level. Tips are given to help teachers assemble sets of multiple texts around topics matching the needs of their students.

Key words: Language for specific purposes, reading comprehension, text types, teaching materials

1. INTRODUCTION

To become able to use English actively in a variety of situations, learners should be exposed to a variety of text types, or genres, written for different types of audiences (e.g., Swales 1990, Bhatia 1993). For a student of engineering, it would seem self-evident that explanatory texts would be very common. But an engineer in the workplace would likely also encounter manuals, promotional materials, e-mails and business letters, recommendations, project proposals, and progress reports (Huckin and Olsen 1991). He or she would need to both read and produce some of these written texts – or at least parts of (clearly, the proportion of these tasks involving English would vary depending on the workplace and the nature of the firm). It would thus be helpful to work with a variety of text types in the classroom, as well

as to draw the attention of learners to the register features for addressing different audiences in writing.

Another concern in teaching English for Specific Purposes (ESP) is the topic of the texts to be studied – we hope to find a topic that will interest students and introduce language material that will be useful to them. We know that if they perceive the teaching material as relevant, this has a positive effect on motivation in general (e.g., Ellis 1997). Motivation is a major factor in learning of all kinds, and learners who highly rate the value of reading and who want to understand a text have been shown to do better in reading comprehension tests (Anmarkrud and Bråten, 2009).

It is generally acknowledged that there is a link between prior knowledge and comprehension of information (most often presented in written form) (e.g. Alexander and Jetton 2000, Ozuru et al. 2009). However, it has been postulated that non-native speakers may have trouble activating background knowledge when they read in a foreign language, as reported interest in a topic and prior knowledge as shown on tests often failed to result in better performance in reading comprehension tests. Interestingly, in the study of Peretz and Shoham (1990) science and technology students reported that they perceived a text outside of their field as being more difficult, but actually performed at the same level as they did with a technology-related text. Clearly reading skill and strategies also play a role in successful processing of text, as do text features such as cohesion (Ozuru et al. 2009).

Many students of English these days appear to be uncomfortable reading texts in English that are longer than a few paragraphs (or reading much at all, in any language). Passages found in language textbooks and language exam preparation materials rarely reach a page in length. One study of intermediate EFL students in Japan found that reading fluency improved more over the course of a semester when using 400-word texts than when using 200-word texts (Taferner and Murray 2013),

indicating that longer passages can help readers. We also know that reading is an important tool for getting the input necessary to build vocabulary and strengthen students' command of grammar. And future needs, whether during further education or in the workplace, make it likely that longer texts will be encountered.

Yet asking students to read long texts dealing with a number of varied topics – even if they are all in a relevant domain – also places a large cognitive burden on readers. They have to deal simultaneously with new information from the text and new vocabulary. In a recent questionnaire, Hungarian university students reported that they need to know every word in order to understand a text (Spicze 2014, this volume). While this is clearly not true, it has been stated that approximately 95% of the words in a text need to be familiar in order to guess from context (Hu and Nation 2000). We also know that recycling words, so that they come up again and again in different contexts, is an important factor in acquiring vocabulary. Thus, extensive reading is helpful, especially for acquiring knowledge of the contextual aspects of lexical items, including grammatical characteristics, collocation, and register constraints (Schmitt 2010).

How is it possible to treat all of these concerns – genre, register, reading more, choice of a relevant topic, and vocabulary recycling? One possible way is to assemble a number of texts centering around a quite specific topic – a scientific discovery, innovative product or research finding – that has been reported in the media.

2. COLLECTING MATERIALS

Sometimes I run across an interesting topic by accident and follow it up from there. In a planned search, however, I usually begin with a science news site. These give brief reports on scientific research, usually either based on journal articles (starting with *Science* and *Nature*, but covering a wide range of journals) or press reports issued by universities and research institutions. The articles typically

provide links to the journal article or press release. After that, I search on Google with key words and researchers' names. With some patience and luck, quite a variety of materials can be obtained. Here are some examples of topics and text sets.

Example 1: Soft robots. These imitate organic creatures in some ways, and are powered by air. The set currently consists of one video (without narration, showing how the robot moves) and six texts, with a total wordcount of 1588 words (Table 1).

Text type	Words	First sentence of text
Introduction to video, blog	82	This air-powered soft robot is composed exclusively of soft materials, such as paper and silicone rubber, which is inspired by animals (e.g., squid, starfish, worms) that do not have hard internal skeletons.
Introduction to video, uni. website	50	By molding several pneu-nets in the shape of a quadruped, we were able to form a mobile robot capable of moving in multiple gaits: walking and undulating.
Science blog	708	Not long ago, a pair of Harvard scientists hit on an "aha" moment in the most unexpected place: while waiting in line at a post office.
Newspaper article, general	421	Harvard scientists have built a new type of flexible robot that is limber enough to wiggle and worm through tight spaces.
Editor's comments, journal	219	Mechanical engineers routinely fashion mobile robots by using treads or wheels, which are operated with rigid metallic parts like rods, joints, bearings, and electric motors.
Abstract, research article, journal	117	This manuscript describes a unique class of locomotive robot: A soft robot, composed exclusively of soft materials (elastomeric polymers), which is inspired by animals (e.g., squid, starfish, worms) that do not have hard internal skeletons.

Table 1. Text set for the topic "soft robots"

Example 2: Salad spinner centrifuge. Students designed a hand-powered centrifuge for blood samples to detect amnesia, using a salad spinner. Materials include a radio interview (available on line) with transcript, two articles for the general public, a research paper, and a product development proposal.

Example 3: Mars One project and critical report. The Mars One project aims to put people on Mars, as full-time residents, in ten years. Materials include texts from the website, information on recruiting candidates, and a video and a local newspaper article about an 18-year old candidate who was successful in the first round. There is also a newspaper article about a simulation study showing miscalculations in the planning of the project, and the original report itself.

Example 4: A simple paper test of liver function. This topic ties in with the second

example, with the idea of 'simplicity', and with the blending of science and engineering. Materials include an article from a science site, a blog on medical innovation, an editor's summary and abstract for the research article, and an excerpt of a TEDTALK on simplicity.

3. USE OF MULTIPLE TEXTS IN THE CLASSROOM

To introduce the topic, a word cloud might be a useful tool (Figure 1). This will allow the more frequently appearing content words to be presented, and could be used as homework. Of course, a more conventional vocabulary list could also be drawn up for study purposes, or a frequency list produced with the help of corpus tools.



Figure 1. Word cloud for Topic 4 (generated by worditout.com)

Naturally these sets of multiple texts could be used as any other texts are in the classroom – with reading comprehension questions, vocabulary building tasks, or grammar-focused activities. They can form the basis for discussion, or serve as a step-off point for writing assignments. Once students get the idea, after working with several sets, they can be asked to assemble their own collection of topic-focused texts for use in class. In addition, I believe that these sets of multiple texts can serve as a useful tool for bringing language learners to a more conscious recognition of how texts differ, in genre and register, depending on the purpose of the text and its intended audience. If language users are aware of text features that are appropriate for certain genres, then they are in a stronger position both as text ‘consumers’ and as text creators.

3.1. Focus on raising awareness of genre

If you wish to work with learners on identifying and recognizing features of various genres, it is desirable to collect as many texts representing different genres as possible, while continuing to focus on the specific topic. These can include:

- Advertising texts
- Dictionary entries
- Video transcripts
- Blogs

- Wikipedia texts
- Articles from general newspapers (online)
- Articles from science magazines
- Press releases from universities or research institutes
- Excerpts from journal articles (especially abstracts)

For a very first introduction to the topic of genre, it might be useful to introduce a set of texts in their original form: for instance, an online article with the newspaper’s or magazine’s logo showing, the menus on the side, the photographs – just as the text appears on the screen. These extra-lingual clues give a great deal of information, and can be discussed – looking also at font style and size, layout, etc. (A follow-up to this could be to mix settings and texts, so that a text would be presented in a false setting, and asking students to unscramble them.) Then we can start to pick out a few text-related points (for example register of vocabulary in terms of formality and technicality, use of acronyms, quotations, numbers) to compare among texts.

The second set of texts could then be presented all in the same font and format, and students can be asked to match them with genre type. This time, in addition to the first group of genre features, a few others can be

sought for – the use of the passive, perhaps, and constructions using the empty ‘it’ and ‘there’.

The same procedure could be used for further sets, focusing upon different language features: the use of adjectives and adverbs; hedging and boosting; etc. It would also be possible to go back to earlier sets and re-examine them for different language features. This re-exposure would also assist vocabulary acquisition and could contribute to reading comprehension skills, as well.

3.2. Focus on presenting scientific information

Within a narrower range of genres, it would also be possible to look at how scientific or highly technical information is popularized. In this case, the starting point might be excerpts from a journal article (abstract, parts of the introduction and discussion, conclusions) or technical report. When the information is then presented in a science magazine to an audience of non-specialists who are interested in science, what background information is added? Does the amount of hedging or boosting change? Is the focus of the article the new advance, or the story of how it was achieved, or the scientists themselves? How detailed is the explanation of how it works? How much stress is placed on possible future applications? The process can then be repeated for an article in a publication intended for the general public, written for those with less background knowledge in science.

This approach could be especially useful for working with specialists who need to communicate their topic on various levels, and not just among fellow experts. It may also have applications for helping academic teaching staff in higher education who need to teach their subject in English. Typically, researchers know the technical language of their own fields in English; problems arise when they cannot use very specialized technical terms, or need to explain them in terms that a less-educated audience needs to understand. Working with

texts presenting scientific information to different audiences may aid them in developing an understanding of methods for explanation, and words and expressions that could communicate more understandably.

3.3. Leading into reading research articles

An article for the general public can be used to introduce the general topic, so that learners have a better idea of what the topic is before beginning to work with a research article published in a journal for fellow specialists. After reading through the newspaper article, learners can classify information in the text that they believe would fit into the various sections of the research article – introduction, methods, results, discussion, and conclusions. They can then begin working with the research article by scanning in order to find the information they have already seen. Comparing the information given in the general article with that contained only in the research article might lead to useful discussion about the scope of information that is appropriate for the different types of texts.

4. CONCLUSION

These materials have yet to be systematically tested in the classroom with any substantial number of students; feedback from occasional use with small groups has been encouraging.

Thanks to the resources available on the Internet, materials can be tailored to the interests and needs of students, or even collected by students. However, copyright issues may arise.

Theoretically, these sets of multiple texts – of different genres, centered around a single topic – have the potential to motivate students (if properly selected), to lead them to read a great deal more than the usual amount, to allow them to encounter lexical items multiple times, and to expose them to a number of angles on the same set of information.

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