Omarova G.N.

Scientific advisor, senior tutor at Academician E.A. Buketov Karaganda University

Nadina Anna

3rd course student at physical and technical faculty of Academician E.A. Buketov Karaganda University

Specifics of English for engineers

Abstract: *The aim of this paper is to list the characteristics of English for engineering. We relied on several articles related to this field. The focus was on vocabulary and grammar. It was found out that most characteristics had remained the same through the passing of time but some others had changed. English for Engineering, being a branch of English for Science and Technology (EST), had most of its typical features.*

Keywords: *English for Engineering, EST and ESP*

English for Engineering is an example of English for Science and Technology and its history is the one of EST which on the other hand is closely related to English for Specific Purposes (ESP). In fact ESP in the 'Tree of ELT' (Hutchinson & Waters, 1987) consists of three branches: a) English for Science and Technology (EST), b) English for Business and Economics (EBE), and c) English for Social Studies (ESS). Each of these subject areas is further divided into two branches: English for Academic Purposes (EAP) and English for Occupational Purposes (EOP). An example of EOP for the EST branch is 'English for Engineers' whereas an example of EAP for the EST branch is 'English for Medical Studies.

The large-scale international scientific, technical and economic developments after the Second World War, requested for an international language to serve the needs and demands of people. These people were doctors, scientists, engineers, merchants who needed English to update their knowledge or simply do their job in a global labor market. They had no time to learn general English they needed English related to

their field of study or occupation. Hence, there were made many attempts to focus on English for Specific Purposes and English for Science and Technology (EST). Most of the work in the 1960s was in the area of English for Science and technology (EST) and for some time ESP and EST were regarded as almost synonymous (Hutchinson & Waters).

Characteristics of English for Engineering Being categorized under the umbrella of

EST, English for Engineering manifests many characteristics typical of EST. We will focus mainly on vocabulary and grammar.

There are several characteristics of EST vocabulary.

1. Technical terms

Technical terms are widely used in EST. A great numberofthemcomefromdailylifeandmanyofthem derive from Greek or Latin. According to the U. S. science and technology expert, Oscar E. Nybaken, in 10000 common English words, about 46% of the vocabulary derives from Latin and 7.2% comes from Greek. These percentages are much higher in the highly specialized scientific English vocabulary.

2. One Word with Multiple Meanings

Polysemi is another characteristic of the EST vocabulary. One word has multiple meanings which may vary from one field to another. For example, “transmission”, in telecommunications means “the process of sending a message, picture or other information from one location to another [7], in Mechanical Engineering, it means “a device interposed between a source of power and a specific application for the purpose of adapting one to the other”; In General Physics, it means the extent of which a body or medium transmits light, sound or some other form of energy; etc.

3. Acronyms and blending

From the respect of linguistics, the vocabulary of EST is formed by compounding, blending, affiXation, acronym, clipping, back-formation, coinage, functional shift

and borrowing from the foreign words. However there are some word formation methods that are used more frequently such as acronyms and blending.

Blended words are used more commonly in the EST than in other language texts. People with a professional knowledge of science think that it is easy to understand the meaning of the original word by imagination.

An acronym is a word made up from the first letters of the name of something. Since it is very convenient to use this brief form, acronyms are widely adopted in English technical terms. Furthermore, with the rapid development of science and technology, more and more acronyms are extensively used in various fields

4. Noun phrases with noun modifiers Compared with general English, noun phrases are more frequently used in EST. In general, there is a chain of nouns where some nouns modify the head noun (Ferguson (2004:1).

Modifying noun: Head noun nuclear submarine refit centre

This is because scientific literature contains more abstract concepts such as definitions, principles, laws, conclusions, etc. and because noun phrases represent information in a compact and dense form.

1. Passive voice

One of the most typical grammatical features of EST and English for Engineering is the extensive use of the passive which shifts the focus from the doer of the action to the action. It is widely used to achieve objectivity and because in technical writing or lab reports, it is not important the actor but the process or principle being described. Science and technology documents put emphasis on recounting and reasoning. Moreover, Quirk et al. (1972), cited in Master (1991), states that:

The passive has been found to be as much as ten times more frequent in one text than in another. The passive is generally more commonly used in formative than in imaginative writing, notably in the objective, impersonal style of scientific articles and news items.

On the other hand, Blicq (1981), cited in Master (1991), says "… unfortunately, many scientists and engineers in industry still believe that everything should be written in the passive voice… with the passage of time, this outdated belief is slowly being eroded". In fact, Dave Alciatore, Mechanical Engineer says:

"Like active voice, pronouns were once unacceptable in engineering writing. According to some engineers, using pronouns made writing more "personable" and less "scientific." However, this trend is changing. Some instructors, publications and industries now accept pronouns in written documents. For example, "We tested each sample," as opposed to 'The sample was tested"."

Furthermore, Eisenberg (1982) cited in Master (1991) points out that "… the use of the passive verb slows down the pace, requires more words, and tends to make the going difficult for your readers."

Thus, we could conclude by citing Dudey-Evans & John (1998):

"The idea that scientific… writing uses the passive voice more frequently than the active is a myth; what is true is that such writing uses the passive voice more frequently than some other types of writing… The choice of active or passive is constrained by functional considerations…"

2. More Non-Finite Forms of Verbs

EST requires simple and clear expression and close structure [8] so it frequently uses non-finite forms of verbs instead of attributive clauses and adverbial clause. These make the sentence short and striking.

3. EXtensive use of Imperatives and Modals

The imperatives and modals are widely used in providing instructions which comprise most technical manuals that engineers have to read, interpret or design.

English for Engineering has a specific style. It is rather difficult to decide what English to teach to engineers. First, there are numerous kinds of engineers (civil engineers, architectural engineer, mechanical engineer, chemical engineer etc) with

widely different field of work and terminology. Furthermore most English for Engineers courses are often for people still in full- time education who do not know yet what job they might do exactly. As a result knowing the main grammatical and lexical features of engineering English may help instructors in designing their syllabuses and in choosing learning materials.

References:

1. Peng Jia "The Characteristics and Translation of English for Science and Technology (EST)" (2005)

2. http://www.usingenglish.com/articles/how-to-teach-english-for-engineers.html

3. Dudley-Evans, T., & St John, M. (1998). Developments in ESP: A Multi-Disciplinary Approach. Cam- bridge: Cambridge University Press.

4. Hutchinson, T., & Waters, A. (1987). English for Specific Purposes: A Learner-Centered Approach. Cambridge: Cambridge University Press.

5. Mohammad Al Towaim, "Grammatical and Lexical Features of Scientific and Technical Language" re- trieved 10.07.015: http://www.scribd.com/doc/193396618/Grammatical-and-Lexical-Features-of-Scientific-and-Technical#scribd

6. Writing in Engineering (Language and Learning Online), referred on 12.06.2016, http://www.monash. edu.au/lls/llonline/writing/engineering/index.Xml

7. http://www.thefreedictionary.com/transmission

8. http://www. Usingenglish.com\glossary.html