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SOI: [1.1/TAS](https://doi.org/10.15863/TAS) DOI: [10.15863/TAS](https://doi.org/10.15863/TAS)

International Scientific Journal Theoretical & Applied Science

p-ISSN: 2308-4944 (print) e-ISSN: 2409-0085 (online)

Year: 2021 Issue: 04 Volume: 96

Published: 12.04.2021 <http://T-Science.org>

QR – Issue



QR – Article



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METHODIC TYPOLOGY OF TECHNICAL TERMS IN ENGLISH

Abstract: The article conducting research of the typology of technical terms in the English language.

Key words: typology, technical terms, English.

Language: English

Citation: Seytnazarova, D. K., & Saparniyazova, M. A. (2021). Methodic typology of technical terms in English. *ISJ Theoretical & Applied Science*, 04 (96), 101-103.

Soi: <http://s-o-i.org/1.1/TAS-04-96-21> **Doi:**  <https://dx.doi.org/10.15863/TAS.2021.04.96.21>

Scopus ASCC: 1203.

Introduction

Nowadays the great majority of students who start studying science subjects within technology including computer sciences, mechanics, textile, automobile producing at university can use English at a certain level of competence. They can communicate in the language more or less effectively, they are able to understand other speakers of English better or worse and they can also extract information from technical texts, if their knowledge of technical vocabulary and language structures is sufficient enough. They possess all the three language skills: speaking, listening and reading, because all new course books focus on developing them. What they usually lack is the writing skill. Even more advanced users of English who can produce some simple texts, have problems with writing a text which is teaching reading and writing technical material and listening and speaking in the definite theme related to their profession in English in a traditional classroom setting readable, well-organized, concise, dense, logical, specific and to the point. Technical vocabulary is a major concern for learners who have special purposes in language learning. However, surprisingly little is about such vocabulary, largely because there are no well established approaches for deciding which words are technical terms and which are not, and there are virtually no studies that compare the effectiveness of approaches.

Technical vocabulary is a part of a system of subject knowledge. It could thus be identified and selected by referring to specialists who have a good knowledge of the subject area. Technical vocabulary occurs in a specialist domain, so one of the approaches for identifying and selecting terms would be to compare the frequency of occurrence or non-occurrence in another area or range of areas. Technical terms should either only occur in a specialist area or occur with much greater frequency in that area than other areas. The notion of technical vocabulary has been useful in drawing the attention of the teacher/linguist to the fact that understanding or acquiring the relevant terminology. Nevertheless, technical as a category has proved to be elusive and confusing for many teachers, the reason being that the term has been clearly and consistently defined in the literature. Moreover, it is a simplistic as the specialist division in its that it attempts to classify anything that is specialized.[1.205]. Common sense and experience indicate that this middle area between specialized and general is itself made up of several different types of vocabulary which require different teaching techniques. To illustrate what to choose, let us look at some types of items which have been referred to as technical by various linguists:

a) Items which express notions general to all or several specialized disciplines, e.g. factor, method and function.

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b) Items which have a specialized meaning in one or more disciplines, in addition to a different meaning in general language. Bug in computer science, for instance, is different from bug as we know it in every day use. Solution has different specialized meanings in mathematics and chemistry, in addition to its general language meaning.

c) Items which are not used in general language but which have different meanings in several specialized disciplines. Morphological, for instance, means different things to linguistics and technology.

d) Items which are traditionally viewed as general language vocabulary but which have restricted meanings in certain specialized disciplines. In technology sciences, effectiveness means take effect, it carries no evaluate meaning. In the same discipline, genes which are expressed have observable effects i.e. are apparent physically, as opposed to being masked. Expressed in technology is therefore not associated with emotional or verbal behavior as is the case in general language.

General language items which are used, in preference to other semantically equivalent items, to describe or comment on technical processes and functions. For example, a recent examination of experts revealed that photosynthesis, and other processes such as digestion, do not apparently ever happen they overwhelmingly take place and occasionally occur. Take place and occur can therefore be regarded as technical vocabulary.

To ensure the rating scale is used reliably, one possible solution is to measure interrater reliability. Interrater reliability is used to estimate whether there is a reasonable degree of agreement by different raters as to where a lexical item falls on the scale. To make sure that the interrater reliability check works efficiently, the training of raters should be done using the same kinds of materials that are used for the research. Words can be classified as being technical or nontechnical words by rating them on a four scale designed to measure the strength of the relationship of a word to a particular specialized field. Using such a scale requires good knowledge of the subject area. Decisions also need to be made about whether to be a technical word, the word has to appear as a main entry or can appear in a sub-entry, whether the word has to appear in the same form or can include closely related family members and spelling variants, and whether a word has to occur alone in the dictionary or can occur as part of a multi-word group. In this part of the study, the lemma can be used as the unit of relationships, any inflected forms are considered to be part of the same word family. Of the 229 words occurring only in the dictionary, three were Latin words related to technical words, but not used as technical terms in English. They included words like anterior, inferior, flexibility, elasticity, mobility, triangular. The remaining 130 of the 229 are words like disk, set, captive, press. cutting, thread and

transfer. Interpretation of clues in the text requires a lot of judgment similar to that of using the rating scale but without the inclusiveness of the rating scale approach. Using a computer-based approach. Since the early 1990s, there have been many studies of automatic term extraction Fulford, 2001; Kavanagh, 1995; Heid, 1998/1999; Pazienza, 1998/1999; Vivaldi and Rodriguez, 2001) due to a growing demand for information exchange. Computer scientists researching on extracting terms are constantly developing new computer software in order to obtain more accurate results. The process is called automatic term extraction, automatic term recognition or computer-assisted term acquisition. Typically term extraction software has used two different approaches; statistical and linguistic. Statistical approaches basically compare the number of occurrences in a comparison corpus. Statistical approaches differ from each other in two ways;

- the size and nature of the comparison corpus;
- the formula used to compare the occurrences.

Of the two approaches; statistical and linguistic, the statistical approach on the use of the frequency and range of word forms is the one most often used in term extraction software. This is because terms are generally of higher frequency in specialized texts than in general texts-the most common and typical characteristic of terms from a statistical viewpoint. In order to take advantage of a statistical comparison, the use of formulas is more valid than the use of a stop list. The reason for this is that though the stop words, the most frequent words from a specialized corpus are not all true terms but include many general words used across a wide range of subjects. Technical terms are likely to occur only in a specialized field or to occur with a much higher frequency in a specialized field than in a different field or in a variety of other texts. For example, in technology, articulate refers to the circulation and movement of parts, outside the field it can also refer to speaking. Similarly, trunk refers to a part of the car in vehicle technology, but can refer to a suitcase or a major rail route outside that field. These homonyms however make up only a small proportion of the non-overlapping items identified only by the rating scale. The majority are items like automobile, settle, slotting, manufacture, vessel, factory, computer, which are commonly used both within and outside of the field of anatomy with essentially the same meaning. Thus neither tagging a corpus for part of speech nor tagging homonyms would solve the problem of distinguishing these words as terms. Fifty-four items were identified by the computer-based approach which was not classified as terms by the rating scale. Here are some of these items starting with those with very high frequencies in the technology corpus-work piece, loan, hardening, legal, wages, salary, user, fracture, produce, tool, price, drive.

These words are common in technical texts but are not classified as technical terms because they do

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not directly refer to parts of the techniques. Rather they are common collocates of technical terms-anterior ligament, transverse process. These words would be at home in a technical dictionary but on their own they are not technical terms. If the goal of a computer-based approach is to identify terms and their collocates, then it is more successful. The proportion of terms and collocates correctly identified would be 77.8% and the overall accuracy rate 91.9%. However, not all measures are equally important. The percentage of terms and non-terms has the major effect on this measure. This can be seen in the clues approach where the identification of non-terms is high (91.4 %) and the identification of terms is low (59.5%), but there is a reasonable overall accuracy rate of 83.1%.

To be effective, primarily the number of terms correctly identified needs to be high. This is the most important measure. It has strong construct validity in that when it is being used each rating involves asking the question “ How strongly related is the meaning of this word to the specialist field of technology? “ which is the essence of being a technical term. It is however laborious to apply. It has quite a good overall rate and reasonably consistent success in identifying terms and non-terms. To come up with a definitive list of terms, it is not inclusive enough, largely because it also identifies collocates and it has difficulty identifying terms that are also commonly used outside the specialized field. It has an overall rate of 82.7% , rising to 88 % if collocates are included as correct identifications. The goal of this study is to compare approaches to identifying terms so that the most reliable, valid, and practical approach could be

determined. The rating scale approach was assumed to be the most valid and comparison with the other approaches has confirmed the wisdom of this assumption. It is however a time-consuming approach as virtually every word has to be checked against the scale. It has been applied to a 93,445 token applied linguistics text containing 5137 different words and proved to be manageable. In terms of practicality, the computer-based approach works very well and if common collocates are included as well as terms, it is quite successful. [4.157]

The reason for carrying out these studies is to arrive at a good method for identifying and selecting technical terms so that it is possible to gain some idea of how large technical vocabularies are, how important technical words are in texts and what technical words are like . Studies of anatomy and applied linguistics texts have shown that technical vocabularies can be very large the technical text, technical vocabulary accounts for a very large proportion of the running words in texts and technical vocabularies can differ greatly in the kinds of words they contain technical terms in the applied linguistics text studied are words that commonly occur in other uses of the language- negotiation, interaction, incidental and many of these amongst the commonest words of English .[2.109]

There are other applications of the methodology for identifying terms, such as dictionary construction, the preparation of glossaries, indexes and databases and the preparation of teaching materials. These kinds of matters are still being researched by linguists and methodology experts.

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