

FUNCTIONAL STUDIES OF METALLURGICAL TERMS

ACHILOV BEKZOD BAZAROVICH,

Master Student of Navoi Pedagogical Institute, the Faculty of English Language and Literature

KARIMOV ISLOM G'OLIB OGLI,

Methodist in Narpay National Department of Education

TOKHIROVA DILRABO MUZAFFAR QIZI,

Graduate Student of Samarkand State Institute of Foreign Languages,
+998915463056, dilrabotohirova2@gmail.com

ABSTRACT:

The following article studies several terms of metallurgy and compares the usage of them in other layers of a language. Furthermore, the article analyzes the vitality of scientific terms in the example of metallurgical terms.

KEYWORDS: terms, lexicon, metallurgy, cohesion, characteristics,

INTRODUCTION:

That English lexicon is so colossal and various that makes the language impossible to classify it into separate categories, it is hardly like the number four that can be divided easily without leftover. And a single word, lexicon simultaneously contain information relating to more than one linguistic dimension. And that is why, Introducing new scientific language to students can cause considerable confusion, particularly when the students may have established a different understanding of the terms from their everyday use. Careful thought needs to be given to the selection of new scientific terms, the choice of language used in definitions and the implications of prior understandings based on everyday use. As an example, young students are already very familiar with the term 'gas' as one used to describe a range of combustible fuels (for example LPG camping gas, BBQ gas bottles or LPG motorcar fuel). The term may also be used

to describe the natural gas used in homes for cooking or space heating. The word 'gas' in all of these contexts is used to describe a flammable fuel that is burnt to generate heat. It is reasonable to expect this common usage of the word to lead to some confusion when the scientific use of the word is introduced. It is well documented that of the three general states of matter, gases are least well understood by primary students. When most students are asked to give examples of a gas they invariably provide only uses of gases, i.e. they make strong connections with gas flames and combustion. Students (up to the age of 12) often do not define air as a gas because a gas is seen as something that is combustible and air is not. This confusion occurs with the use of other scientific terms in different contexts as well. For example, the common usage of the word 'plant' generally refers to a small, low growing shrub. When the scientific term 'Plant Kingdom' is introduced to students they often have difficulty with the classification encompassing very large trees or small non-vascular mosses. Another example is that the word force is often used in the context of power relationships, for example, "My parent forced me to make my bed."

When people are engaged in science, the language of communication they use tries to be more precise and consistent. Science often introduces technical words with specific

meanings and also gives scientific meaning to words which may have a different usage in everyday language. When considering introducing new scientific or profession-related words to students, teachers should consider their answers to the following questions:

Is the word important? – Is the term in frequent use and of scientific importance to the students? The term ‘orogeny’ has a precise scientific meaning but will its use be helpful to students at their level?

Does it add to the students’ understanding if it is used? – Often the meaning of the word is constructed by students through frequent use and by testing its correct application in new contexts.

Does the student have to know the word now? – The difference between the terms ‘weight’ and ‘mass’ provide good examples of terms that should be used when they are conceptually appropriate for the student.

Would insisting on the use of the word be useful to the child? – The term ‘melting’ describes a change of state which has useful applications in a range of different contexts; it is powerful to students because it can replace a lengthy description with a single word. For young children, being able to identify a process, event or group of objects with a precise scientific term is often a very empowering experience. They are frequently keen to identify other areas in their world where this new term can be applied and their understanding of the term can be tested. It is often helpful to use discussion to generate a student need for a new scientific term which provides a label or conveniently describes a process in a shorthand way. This avoids the need for lengthy descriptions and validates the usefulness of the new term. All students require opportunities to practise the patterns of language that are used to talk and write

about science knowledge and scientific processes and skills. In science classes students are frequently asked to ‘estimate’, ‘measure’, ‘observe’ and ‘describe’ events and substances. They may be asked to ‘make predictions’ and ‘draw conclusions’. It should not be assumed that all students have a clear understanding of what these terms require them to do or have established language patterns that allow them to do this effectively. The below given paper discusses one of the few terms that can serve as specific terms of a particular field: metallurgy with appropriate examples and compares. Metallurgy is a science and technology of metals, a broad field that includes, but is not limited to, the study of internal structures and properties of metals and the effects on them of various processing methods. In the following some of the metallurgical terms have been investigated from linguistic point of view.

There are some terms that can be understandable to those of non-metallurgy sphere, as they are used in every day speech as well. For instance, the term aging (A change in properties of metals and alloys which occurs slowly at room temperature and will proceed rapidly at higher temperatures.) can be well known for people related to dermatology and metallurgy as well. The term allowance (In a foundry, the clearance specified; difference in limiting sizes, as minimum clearance or maximum interference between mating parts, as computed arithmetically.) or the term artificial Aging (An aging treatment above room temperature.) can be salient examples. One can guess the meaning behind this term after knowing the term aging and the definition of the word artificial. Or if we take the term bake (Heat in an oven to a low controlled temperature to remove gases or to harden a binder), we can say that this term is easily understandable as its common meaning is nearly the same. The term Cavitation (The

formation and collapse of cavities or bubbles within a liquid) is used in dentistry and metallurgy simultaneously. Needles (Elongated acicular crystals tapering at each end to a fine point as martensite) is the term of both metallurgy and botany. In botany it refers to the type of leaves of some trees.

The term Cohesion (The force by which like particles are held together. It varies with different metals and depends upon molecular arrangement due to heat treatment) can be used in linguistics and metallurgy. In linguistics it refers to several ties and connections that link the parts of sentences grammatically. There are numerous acronym terms as well that occur frequently in metallurgy-related sources, for example, BHN (Brinell Hardness Number), CAD (Computer-Aided Design), CAE (Computer Aided Engineering), CAM (Computer-Aided Manufacturing) CMM (Coordinate Measuring Machine), CNC (Computer Numerical Controlled Machine Tools) ID Grinding (Term for internal (dimension) grinding). They are hardly complicated to comprehend meanings as the components of these phrases are used on a daily basis. Furthermore, there are some terms that have several meanings within the sphere of metallurgy for example: Contamination 1) Radioactive deposition of radioactive material in any place where it is not desired, and particularly in any place where its presence may be harmful. The harm may be in vitiating the validity of an experiment or a procedure, or in actually being a source of danger to personnel, 2) presence of small percentages of deleterious elements in an alloy adversely affecting the alloy's mechanical properties and/or casting soundness.

CORE DENSITY:

- 1) Permeability of core or
- 2) weight per unit volume)

CORROSION:

- 1) Gradual chemical or electrochemical attack on a metal by atmosphere, moisture or other agents,
- 2) chemical attack of furnace linings by gases, slags, ashes or other fluxes occurring in various melting practices).

There are some terms that have got the same components inside: core, core binder, core box, core density, core combination, core blow, core hardness, core shift, core vents and coring. A term has caught my attention when I started investigation of metallurgical terms. It is die that is used to to express A metal block used in forming materials by casting, molding, stamping, threading, or extruding. Some terms have named after the metallurgist scientists namely, Kayser Hardness Test (A method for determining the true hardness of metals at high temperatures), Kerf (The width of a cut). Meyer Hardness Test (A test to determine tendency of a metal to harden when deformed plastically. A series of indentations are made in the metal using a fixed-diameter ball and progressively increasing loads.) To the surprise of housewives, several kitchenware are used widely in the current sphere, in particular, ladle, teapot (A ladle in which, by means of an external spout, metal is removed from the bottom rather than the top of the ladle)

In conclusion, metallurgical terms have specific characteristics that should be investigated further. It never belongs to only the sphere of terminology, yet it has inextricable links to linguistics and its branches.

REFERENCES:

- 1) Effective terminology management using computers, Kingscott, 1998
- 2) Terminology, ordre des traducteurs, terminologies et interpretes agrees du Quebec

3) Disciplining words: what you always wanted to know about terminology, Muegge, Uwe 2007
4) The online dictionary of language terminology

5) TermSciences, the scientific terminology database Research: Russell, Longden & McGuigan (1991), Skamp (2004)