

DISAMBIGUATION OF "IRANIAN CODE OF PRACTICE FOR SEISMIC RESISTANT DESIGN OF BUILDINGS" TEXT AND ITS NECESSITY

Ali NASIRI

M.Sc. Graduate of Earthquake Engineering, Science and Research Branch of IAU, Tehran, Iran
ali.nasiri@srbiau.ac.ir

Behrooz MAHMOODI-BAKHTIARI

Associate Professor, Department of Performing Arts, Faculty of Fine Arts, University of Tehran, Tehran, Iran
mbakhtiari@ut.ac.ir

Seyedeh Mahdis MIRZADEH

M.A Student of General Linguistics, Science and Research Branch of IAU, Tehran, Iran
mahdis.mirzadeh@srbiau.ac.ir

Keywords: Disambiguation, Seismic resistant design, Lexical ambiguity, Earthquake engineering code

According to the fact that Iran is located in earthquake prone region and due to the creation of integrated and supervised scheme throughout the country, a code for "Designing Earthquake Resistant Buildings", also known as "Standard 2800", is provided for engineers, used as the basis of their structural design. With the specialization of science in the world, scientists have tried to prevent the creation of possible chaos in the interpretation or application of science by writing approved codes.

Proper understanding of the subject and correct use of language to express the concepts, can create a coherent and unambiguous particular text. As the scope of the audience of this code is very wide and the process of design and construction of structures is carried out by engineers of different educational and technical levels in Iran, so it seems to be necessary to use coherent and explicit text to express technical terms and disambiguate the text of the "Standard 2800" to prevent personal perception and possible misusages. Because any ambiguity in the text of the "Standard 2800" and subsequent distortion of understanding of its audience, cause huge loss of wealth and human lives due to major earthquakes.

Linguistics is the scientific study of language. It involves analyzing language form, language meaning, and language in context. The aim of this paper is to present pioneering plan in the field of applied linguistics to use in the writing of specialized texts, including engineering sciences. After reviewing the text of "2800 Code", the authors noticed the existence of different linguistic ambiguities in the text that influence the interpretation of the context. These linguistics ambiguities can be divided into several categories as follow:

- 1- **Reference:** In presenting the traditional semantic view of reference, Lyons (1968:404) says that the relationship which holds between words and things is the relationship of reference: words referred to the things. In some sentences of this regulation, the source of the referring expression is not clear for the audience (e.g. page 26) and in other cases, the use of reference expressions could prevent repetition (e.g. page 11).
- 2- **Writing Misspelling:** Empson (1973) believes that some kind of ambiguity occur when the author discovers his idea in the act of writing. Misspelling, as well as non-observance of punctuation, reduce the reading speed as well as prolong the process of reading comprehension (e.g. page 87, 92).
- 3- **Maxim of Quantity:** Grice (1975) believe that the speakers should make his contribution as informative as is required for the current purposes of the exchange. It means that do not make your contribution more informative than is required. In many parts of this regulation, we see the excessive use of words and repetitions of sentences (e.g. page 20, 29 & 90).
- 4- **Cohesion:** Halliday & Hasan (1976) take the view that primary determinant of whether a set of sentences do or do not constitute a text depends on cohesive relationships within and between the sentences, which create texture. In some sentences of this code, we could not see a cohesive ties which bind a text together (e.g. page 69, 5).



The other type of ambiguity is called lexical ambiguity which is about two words that within context are opposites that expose a fundamental division in the author's mind. This kind of ambiguity in this code occurs when a word has a special meaning for civil engineers and a general meaning for the general public (e.g. page 1, 5). In brief, the frequency of occurrence of each ambiguity factor can be found in Figure 1.

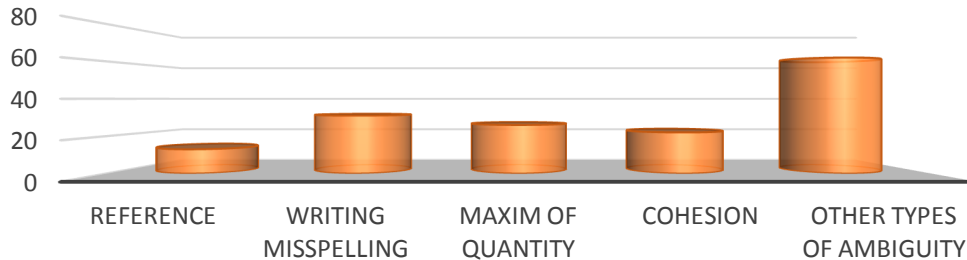


Figure 1. Frequency of ambiguity factors in the text of "Standard 2800".

The results indicate that when writing this code, it should address such issues as: the correct choice for loan words, the correct way of expressing long sentences, choosing the proper verbs, observing the principles of writing will be given more attention to prevent ambiguity in the text. We propose that the text of "Standard 2800" should be rewritten according to the principles of linguistics. It is hoped that this research will lead to a change in the approach to regulating other regulations and to provide a proper understanding of the rules of various engineering fields in our country.

REFERENCES

- Blake, J. (2016). Grammatical resolution of ambiguity in scientific and academic writing, *International Congress on English Grammar*, India.
- Empson, W. (1973). *Seven Types of Ambiguity*. Hammond's worth: Penguin.
- Grice, H.P. (1975). *Logic and Conversation, Syntax and Semantics*. Vol. 3 edited by P. Cole and J. Morgan, Academic Press.
- Halliday, M.A.K. and Hasan, R. (1976). *Cohesion in English*. London, Longman.
- Lyons, J. (1968). *Introduction to Theoretical Linguistics*. London, Cambridge University Press.
- Mirzadeh, S.M., Bakhtiari, B.M., and Nasiri, A. (2018). Disambiguation methods of civil engineering codes texts: case study of earthquake engineering code. *10th International Iranian Conference on Linguistics*, Tehran, Iran (in Persian).
- Permanent Committee of Revising the Code of Practice for Seismic resistant Design of Buildings (2014). *Iranian Code of Practice for Seismic Resistant Design of Building (Standard No. 2800)*, 4th Ed., Building & Housing Research Center: Iran.