

Vertical or Horizontal? That is the Question: An Eye-Track Study of Data Presentation in Internet Dictionaries

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Introduction:

Lexicographic data presentation and access structures, cf. (Wiegand 2002) and (Bergenholtz et al. 1998), the concept of accessology, cf. (Tarp 2007), the concept of lexicographic information costs, cf. (Nielsen 2007), the discussion of the relevance of empirical user surveys, cf. (Tarp 2007) and finally the discussion of log files in lexicography, cf. for example (De Schryver & Joffe 2004), (Bergenholtz & Johnsen 2005), (De Schryver et al. 2006) and (Hult 2008) are important theoretical considerations when discussing design and lexicographic data accessology in Internet dictionaries.

However, so far the discussion of Internet dictionary design has been solely based on purely theoretical considerations and server-generated log file data and with minimum user involvement as argued by Simonsen (2002) for example. Now the time has come to present an empirically substantiated discussion of lexicographic accessology, lexicographic information costs and vertical or horizontal data presentation in Internet dictionaries, and it is argued that this exploratory study does provide empirically based new theoretical stimulus to the ongoing discussion of lexicographic accessology and information costs.

Purpose:

The purpose of this article is to discuss the relevance of eye-track studies in internet lexicography, lexicographic accessology, lexicographic information costs and vertical or horizontal data presentation.

Methodology:

The paper draws on selected theoretical contributions on eye-tracking, lexicographic access structures and accessology, lexicographic information costs and log files in lexicography. Empirically, the article is based on two types of data. The first type of data are quantitative eye-track data collected from a eye-track study of how five test subjects accessed the same lexicographic data in two versions of the same Internet dictionary. The first version of the Internet dictionary used a horizontal data presentation and the second version of the Internet dictionary featured a vertical data presentation. The second type of data are qualitative think-aloud data, which were recorded during the experiment.

Findings:

On the basis of the theoretical discussion and the eye-track data and think-aloud data collected, this paper makes the case for an increased use of eye-track analysis in internet lexicography with a view to develop better Internet dictionaries and thus support language users, and it argues that eye-track data and think-aloud data successfully supplement lexicographic log file data and that such data increase our knowledge of Internet dictionary usage. The analysis indicates that a number of aspects dictate whether test subjects prefer a horizontal over a vertical lexicographical data presentation. First, it was shown that the nature of the lexicographic function (either communications-related or cognition-related) plays a role for whether users of Internet dictionaries prefer a vertical or a horizontal design. Second, it was found that the type of lexicographical information costs involved (either search-related or comprehension-related) is dependent on, or perhaps even caused by, the data presentation of the Internet dictionary. Third, also the amount and complexity of lexicographic data dictate whether the test subjects preferred a vertical or a horizontal design.