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## **End-user Interaction with Thesaurus-enhanced Search Interfaces: an Evaluation of Search Term Selection for Query Expansion**

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A major challenge faced by end-users during the information search and retrieval process is the selection of search terms for query formulation and expansion. Thesauri are recognised as one source of search terms with the potential to assist users in the process of term selection. Research in search term selection, query expansion and interface evaluation has stressed the importance of providing end-users with terminological assistance. As the number of thesauri attached to information retrieval systems has grown, a range of interface facilities and features have been developed to aid users in formulating their queries.

This study investigated end-user interaction with a thesaurus-enhanced search interface to evaluate their search term selection and query expansion behaviour. The main objectives of this study were: to evaluate how and to what extent a thesaurus-enhanced search interface assisted end-users in selecting search terms for query expansion, to ascertain users' attitude toward both the thesaurus and interface as tools for facilitating search term selection, and to identify searching and browsing behaviours of users interacting with a thesaurus-enhanced interface. The test environment involved the Ovid CAB Abstracts database, the CAB thesaurus, and 30 academic staff and postgraduate students with genuine search requests. The data gathering tools employed were pre-search questionnaires, screen capturing software, post-search questionnaires, and post-session interviews.

The results demonstrated different patterns of thesaurus-based search term selection by academic staff and postgraduates. Academic staff with more extensive domain knowledge tended to select narrower terms whereas postgraduates more often chose related and broader terms. In general, all users selected a larger number of narrower and related terms for expanding their queries. The effect of topic characteristics such as topic complexity and topic familiarity on search behaviour was also investigated. It was shown that complex topics affected users' cognitive and physical moves, number of search terms selected and query expansion instances. Topic familiarity was also found to have an effect on users' browsing behaviour. An evaluation of users' perceptions of the interface indicated that usability was a factor affecting thesaurus browsing and navigating behaviour.

This study was constrained by the limitations of the IR system utilised, the experimental design and the choice of subjects. However, this study can be viewed as the first investigation of variables such as topic complexity and topic familiarity within a thesaurus-enhanced search environment. The findings of this study contribute to research in the areas of user-centred search term selection, thesaurus-assisted query expansion and the evaluation of user interaction with IR search interfaces.