How can we take a socio-cognitive approach in teaching indexing and abstracting?

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A socio-cognitive approach in teaching indexing and abstracting considers index users as part of larger discourse groups or domains. The article suggests that assignments should be planned to introduce students to such groups (e.g. for a specific discipline) and that portfolio assessment and limited research projects could be useful.

Indexers face a rapidly changing environment. From card-based systems for back-of-the-book and database indexing they have moved on to automatic indexing, computer-assisted indexing programs such as Macrex and Cindex, and web-based indexing. There is also an increasing demand for relevant information and the avoidance of information overload. In spite of many years of research in the field of information retrieval (IR), we are still faced with the inadequacy of our knowledge. Anderson (1994) remarks that ‘there is so little research and so much ignorance about indexing, especially on how people use indexes, and what constitutes good and useful indexing’, while Milstead (1994) declares: ‘People have been making indexes for hundreds of years, but there has been relatively little research on indexing as such’. The complexity of the processes of indexing and abstracting and the impossible demands made on indexers and abstractors has also often been noted. According to Lancaster (1998), indexers ‘rarely have the luxury of being able to read a document carefully from cover to cover . . . nevertheless the indexer should . . . take into account the entire document’.

The basic principles of teaching indexing and abstracting, and the guidelines, rules and standards, have been well documented in textbooks such as Cleveland and Cleveland (2001) and Lancaster (1998), and in standards for indexing and abstracting. Jacob and Shaw (1998), Hjørland (1997, 2002) and a number of other prominent researchers, however, seem to favour the socio-cognitive approach to entity representation, where the latter can include books, reports, journal articles, archival documents and museum objects. The socio-cognitive approach is an addition to the systems-orientated, user-centred and cognitive paradigms of IR research. It focuses on the individual user as part of a larger environment or discourse community.

In an effort to integrate the cognitive viewpoint in a more sociological or sociocultural approach to research, the socio-cognitive perspective shifts attention from individual knowledge structures to discourse domains to: knowledge-producing, knowledge-sharing, and knowledge-consuming communities.

Hjørland (2002) offers examples of how behaviourism, cognitivism, psychoanalysis and neuroscience, for example, take different views on information needs and relevance criteria. According to him we need to epistemologize psychological issues to see individual knowledge in a historical, cultural and social perspective.

It is against this background that we should consider the training of indexers and abstractors. The question arises as to whether it is adequate to merely teach students the ‘recipe’ approach (working according to rules and guidelines set by textbooks and standards) or whether we should introduce them to a socio-cognitive approach. Should they focus on the entity (content-orientated indexing) only or should they take a needs-orientated approach (Albrechtsen, 1993)? How do we prepare students to consider the user of IR systems as belonging to a larger social group or discourse community? How do we teach sensitivity to subject vocabulary and information needs?

Training issues

Before considering a socio-cognitive approach to teaching indexing and abstracting skills, a few words on training per se are necessary. The purpose of training is not only to introduce students to the basic principles, rules, and standards, but also to get them interested in the whole IR field, to keep them motivated, to make them realize the importance of indexing and abstracting in supporting the ideals of effective information retrieval systems and to prepare them for the complexity of real-life indexing and abstracting for designated target groups. We need practising indexers and abstractors, as well as IR researchers.

In the teaching scenario we have to choose from different types of indexing such as database, back-of-the-book and web-based indexing for a variety of entities and subject fields. Apart from preparing students to cope in the job-market (e.g. working for database producers, book publishers, or as in-house website and intranet designers), departments of library and information science should also focus on stimulating interest in IR research and the different research paradigms. The following section offers some basic suggestions on how undergraduate students can be orientated towards a socio-cognitive approach towards indexing and abstracting.
Suggestions for a socio-cognitive approach

Undergraduate students are often young adults with neither significant work experience nor substantial subject knowledge, apart from what they learned at school. One can assume that they have a limited subject vocabulary. When teaching indexing and abstracting principles, it might therefore be advisable to move from their existing vocabulary and experience (that of a teenager) towards more academic disciplines. Indexing and abstracting principles as depicted in the standard textbooks are normally fairly straightforward; the problem lies in the conceptual analysis of the intellectual content of an entity and translating it into a suitable vocabulary representing the ‘subject discourse’ and information needs of the designated target group. The following scenario serves as an illustration.

A group of undergraduate students is divided into small groups. Each is responsible for preparing entity representations for an information retrieval system such as a database, an index for a book, bibliography, portal or website for teenagers within a particular field of interest (e.g. AIDS, drug abuse, pop music, religion, or political issues of the day). Apart from applying indexing and abstracting rules, the entity representations should clearly show that they have been adapted according to the information needs, cognitive abilities and typical vocabulary of a group of teenagers. The student group should indicate how they collected information on these aspects (e.g. the methodology they used), as well as their findings. Findings from different groups can be compared in making recommendations for indexing and abstracting, the information retrieval system can be tested by teenagers representing the target group, and the findings can be evaluated so that recommendations can be offered for improving the entity representations.

Since students will eventually move on to indexing and abstracting practices in real-life situations, they should also be encouraged to become familiar with the academic discourse in a discipline of their choice (e.g. history, philosophy, information technology, computer science). This might, for example, be one of their major subjects. In the process, they can become familiar with the academic vocabulary of the discipline, the research topics, the subject literature and the information needs of practitioners. To assist them in their studies, students can compile a portfolio.

A portfolio approach

According to Paulson, Paulson and Meyers’s definition (as quoted by Fourie and Van Niekerk, 1999) a portfolio is a purposeful collection of student work that exhibits the student’s efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection. A portfolio ... provides a complex and comprehensive view of student performance in context. It is a portfolio when the student is a participant in, rather than the object of assessment ... it provides a forum that encourages students to develop the abilities needed to become independent, self-directed learners.

Portfolios have been used with success in teaching research information skills to students from different disciplines (Fourie and Van Niekerk, 2001). The portfolio can include articles, websites, etc., representative of the discipline or a particular area within it (e.g. the recommended reading), terminology lists, lists of dictionaries, thesauri, encyclopaedias, textbooks in the field, discussions with lecturers and senior students on research needs and interests, etc. The portfolio should also include literature from the IR field to support indexing and abstracting practices in the field of choice, such as an article by Tibbo on historians’ needs for abstracts (Jacob and Shaw, 1998).

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A final project

As a final project, students can be required to submit a portfolio of document representations for an information retrieval system for the discipline of their choice, with a set of indexing and abstracting guidelines for the selected target group. In addition, they can submit a proposal for a mini-research project to test the quality of their information retrieval system. In this way they can practise indexing and abstracting skills, be sensitized to the socio-cognitive approach to document representation, and take a small step towards IR research practice.

Conclusion

The suggestions mentioned above are very basic, and can be seen as a small step towards a socio-cognitive approach for undergraduate-level teaching of indexing and abstracting. According to Hjørland (2002):

No epistemology or theory of interpretation can replace knowledge of, for example, the texts to be indexed. However, epistemological knowledge forms an interdisciplinary foundation for general theories about knowledge organization, information retrieval, and other basic issues in IS. This may be the only general foundation that it is possible to establish!

The extent that epistemological theories and concepts can be defined rigorously can help us to formulate precise criteria for knowledge organization, information retrieval and the design of information systems. ‘If this turns out to be a hard job, it should not be given up unless other ways forward can be demonstrated to perform a better job’ (Hjørland, 2002). Each small step can help students to gain a better understanding towards a socio-cognitive approach.

 References


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