Chapter 6
E–Collaborative Help–Seeking
Using Social Web Features

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ABSTRACT

Many help systems fail because users do not perceive them as helpful and refuse to use them. Obviously there is a gap between the intentions of the help content authors and the achievement of objectives concerning the perceived usefulness by help users. Current help systems show considerable weaknesses concerning (1) the comprehensibility of the help content, and (2) the format of the help output. Users are often seriously challenged with understanding the instructions given by the system, which usually is not adequately adapted to users’ prior knowledge or their vocabulary. This problem is strengthened by the implementation problem of missing feedback channels. The current paper aims to address these issues by presenting an information architecture for an online help system, which constitutes the basis for a dynamic help system, gradually developed by experts and users. It combines earlier models of design patterns with features for user contribution from social software.

INTRODUCTION

Help systems of computer-based learning environments are designed to help learners to complete a task or to solve a problem which they cannot solve on their own. Unfortunately learners often perceive those help systems as not being helpful at all and they refuse to use them (Aleven, Stahl, Schworm, Fischer, & Wallace, 2003). Thus, many current help systems fail due to the gap between the intentions of the help system designers and the objectives of the help system users. For a successful help-seeking process the learners have to be able to clearly formulate their help request and to look for the appropriate help. Help is appropriate if it enables the learner to complete the task (Mercier & Frederiksen, 2007). However, systems sometimes do not contain the appropriate help to enable the learners to solve their problems, since help content authors often do not know enough about the actual...
problems and tasks of the learners. Additionally content authors are domain experts and often do not share the learners’ vocabulary, which makes retrieving and understanding of help difficult for the learners. One possibility to bridge this gap is to address aspects of communication between help designers and users by merging approaches from educational science and information architecture. The authors developed a help system which combines elements of a design pattern language, expert-lay-communication and social computing to enable feedback processes, collaborative annotation and retrieval of help artifacts. This help system fosters interaction between help seekers and help designers and therefore is an effective tool for e-collaborative knowledge construction.

**ACADEMIC HELP-SEEKING**

Academic help-seeking describes help-seeking activities within learning contexts. In learning contexts help-seeking is essential for the successful construction of knowledge as it is a necessary resource-based learning strategy (Karabenick & Newmann, 2006). In contrast to other strategies of self-regulated learning, it requires interaction with teachers, peers or computer-based learning environments. This chapter focuses on the features of effective help systems in computer-based settings. However, the cognitive processes underlying computer-based help-seeking processes are quite similar to those in face to face settings.

**A Model of the Help-Seeking Process**

Mercier and Frederiksen (2007) developed a model of the help-seeking process focusing on cognitive processes. According to them the help-seeking process can be segmented into five steps. (1) The recognition of an impasse indicates that a relevant task cannot be successfully completed, which leads to the awareness of need for help. (2) The diagnosis of the origin of the impasse leads to a specification of a need for help. (3) Consequently a help goal is set. (4) The learner looks for appropriate help. Help is appropriate if it enables the learner to complete the task. This implies that the learner is able to comprehend the help content. (5) Evaluating the received help completes the process. However, learners might have serious difficulties in discovering an impasse and diagnosing its origin. Even if an impasse is discovered, in a computer-based setting, the learner must be able to formulate a help request using a language the help system understands. The interaction with the help system can be regarded as successful if the learners are subsequently able to complete the task, or are able to solve similar tasks on their own. However, not all ways of help-seeking are equally adequate for learning. Often, the learners’ goal in seeking help may be to merely complete the task without striving for deeper understanding. This superficial kind of help-seeking is often just a short term perspective since it enables the learners to complete the current task, but does not lead to a deeper understanding which would enable them to solve similar tasks without further help of the system. Learners who want enhance their understanding show more elaborate help seeking behavior (i.e. requesting help considering understanding and future performance; Nelson-LeGall & Resnick, 1998). Thus, help just supporting learners to complete a task might be appropriate in some cases but elaborated help should be available as well. Some studies revealed that learners in computer-based learning environments often show rather inadequate help-seeking behavior (cf. Aleven et al., 2003). Schworm and Renkl (2006) for example showed that in a computer-based learning environment about instructional design principles learners’ self-explanation activity decreased if they were provided with instructional explanations giving direct answers to the questions asked. Learners’ self-explanation activity however is highly correlated with their learning outcome (Chi, Bassok, Lewis, Reimann, & Glaser, 1989; Renkl, 2002; Schworm & Renkl, 2006, 2007).