

Chapter XLI

Skillful Internet Reader is Metacognitively Competent

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ABSTRACT

The purpose of this study was to investigate the interrelations between information searching, text-processing, information evaluation, and metacognition when upper-secondary school students are using Internet as a source for an essay. Students ($n = 24$) were asked to search for source material from the Internet in order to write an essay on a given topic. They were asked to verbalize their thoughts while they were gathering their source material. Their verbalizations and actions were recorded and analyzed. The results indicated that students who had difficulties in locating relevant information had to monitor their orientation and keep track of what to do next. Skillful students, in contrast, were able to plan and evaluate their performance, and adjust their activities to the task demands. These students were then able to focus more on elaborative text-processing. Thus, the present study supports the view that constructively responsive reading demands a metacognitively competent reader.

INTRODUCTION

Using the Internet both as an information source and as a learning resource sets cognitive demands for searching, information processing, evaluation,

and regulation. Mostly these complex processes have been researched in separate studies. However, Brand-Gruwel, Wopereis, and Vermetten (2005) have suggested a model to combine these processes. The information problem solving

process, as their model is called, consists of five main skills and their regulation. In the model the main skills are: 1) defining the information problem, 2) searching for information, 3) scanning information, 4) processing information, and 5) organizing and presenting information. These main skills further divide into several sub-skills. A closer look at these sub-skills reveal that judging information is an iterative process that is related to the information searching, scanning, and processing phases of the information problem solving task. Because of this complexity, Internet readers need, alongside traditional reading strategies, additional prior knowledge on website structures and search engines (Coiro & Dobler, 2007). They also need forward inferential reasoning strategies (Coiro & Dobler, 2007) and critical thinking skills (Gilster, 1997).

In this chapter we use concept of Internet reading as we are interested in how internet users apply traditional reading strategies. Do to the fact that Internet differs from traditional information sources, these reading strategies are complemented with information search processes as well as information evaluation and metacognitive processes specific to Internet reading.

Information on the Internet is often presented as hypertext. Hypertexts are typically non-linear, interactive texts that may include multiple media forms (Coiro, 2003). Readers of hypertexts decide what information to access and in what order. Thus, the reader is responsible for choosing and organizing arguments, whereas in traditional, linear texts these activities are done by the author (Carter, 2003). This is an interesting notion in view of the difficulty that university students have in identifying arguments (Larson, Britt, & Larson, 2004), even when reading printed, linear texts. The reader's responsibility for making decisions about what to read and in what order increases cognitive load; this in turn impairs reading performance (DeStefano & LeFevre, 2007). Eveland and Dunwoody (2000) found, consistently, that majority of processing done by Internet users

focused on maintaining orientation both to the structure and to the content of the website. This dual effort reduces information processing devoted to meaningful learning.

In most cases, Internet readers are required to integrate information from multiple sources to meet their information needs. According to Britt and Sommer (2004), it is more demanding to form between-text links than within-text links, because of the lack of explicit clues for facilitating integration. On the other hand, when readers seek to acquire a coherent representation by integrating information from multiple sources, they process information more actively (*ibid*). In the study conducted by Wiley and Voss (1999) university students read the same material either from multiple sources (web documents) or as a single text from a textbook. The students were asked to write an argumentative, narrative, or exploratory essay, or a summary. The students who read the material from multiple sources and wrote an argumentative essay composed the most integrative essays with the most causal connections.

In studies concerned with the reading strategies used on the Internet, participants have either searched for information in accordance with their own interests (Eveland & Dunwoody, 2000; Hill & Hannafin, 1997) or they have searched for answers to narrow questions (Coiro & Dobler, 2007; Konishi, 2003). The aim of the present study was to obtain information about reading on the Internet while students searched for and read information for a broader, authentic learning task, that is, when they used the Internet as a source for an essay. The primary focus of this chapter is on the interrelations between information searching, text-processing, information evaluation, and metacognition and how these processes are mirrored in essay writing.

Information Searching

Internet readers need both prior knowledge of the topic related to the search task and experience of

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