

Credibility and authority of information in learning environments

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Introduction

The question of credibility and authority of information has been discussed in information science and related disciplines for many years (Rieh & Danielsson, 2007). Already in the early 1980s, Patrick Wilson (1983) discussed how the cognitive authority of people and texts is constructed. The way in which people evaluate and make sense of information has gained new relevance when traditional control mechanisms for information access - such as schools, libraries and publishers - change in form and practice. An individual's responsibility to critically reflect on the authority of information sources is even more vital in digital environments where the borders between producers, mediators and consumers of information can easily become blurred. Two examples where this often happens are Wikipedia articles and blog posts where anyone, regardless of academic title or other credentials, can write or comment. Different web sites and different technologies offer varying ways to control the authority of the source, as well as other factors that may be used in determining credibility. This is partly dependent on the structure, organization and technology of the web site which have consequences for the practices carried out in digital environments. It is therefore possible to argue that the material properties of information artefacts have importance when people construct credibility and evaluate authority (Francke, 2008; Rieh, 2002).

For students in learning environments such as schools and libraries questions relating to credibility and authority of information are crucial. Changed pedagogical practices, such as problem-based learning and new publication patterns, including those commonly referred to by the name of Web 2.0, create changed circumstances for students' information needs, seeking and

use. Today students at all educational levels are often expected to formulate their own questions and to independently find information to carry out their assignments. At the same time, these new circumstances are difficult to handle for students in educational settings. Students perceive difficulties when evaluating information according to principles of source criticism (Alexandersson & Limberg, 2003). It can be argued that contemporary tools for information seeking practices are changing the focus from finding information to evaluating the credibility and authority of the same information (Sundin, 2008).

The objective of the panel is to discuss credibility and authority of information in learning environments, considering the changed circumstances of digital media. The starting point for the discussion is four related research questions (see below). Research on information seeking will be discussed in relation to research on information literacy. Kuhlthau (1991) has shown the importance of studying information seeking in relation to information literacy and more recently Limberg and Sundin (2006) have argued for the importance of bringing these two research areas closer to each other. The panelists will use theoretical and empirical examples from their own research on how students at various educational levels construct credibility and authority of information, both in traditional and digital learning environments. The panel will particularly stimulate dialogue; between the panelists, between different research perspectives and foci, and between the panelists and the audience.

Research Questions to be Addressed by Panelists:

Heidi Julien: What constitutes "credibility" for high school students?

This presentation will present the results of a recent study of high school students' information seeking for a Biology assignment. Despite a curricular mandate to develop information literacy skills, the actual knowledge and skill level of these students is unknown. The criteria that students apply to their evaluation of scientific information, developed through formal instruction, or from their personal experiences, are not understood. Such criteria may include convenience of access or visual appeal, in addition to reliability or accuracy. The study was done to uncover the ways in which students actually evaluate scientific information relevant to the Biology curriculum. A critical incident technique was used to gather interview data and written responses about a classroom information-seeking task. Results show that students' demonstrate very unsophisticated evaluation skills. They strongly prefer web over print sources, and judge the value of the information found on the basis of topical relevancy and consistency with other web sources. Authority of web sources was not a consideration. Students also valued teachers' judgments about credibility, so the classroom textbook was considered authoritative. These results have significant implications for educating students about authority and credibility decision-making.

Louise Limberg: What is the relationship between students' assessment of cognitive authority of information and their learning outcomes of inquiry-based assignments?

The issue discussed by Limberg concerns cognitive authority as a particularly critical aspect of the interaction between information seeking and learning and is grounded in a series of studies on students' information seeking and learning. In this research, information literacy is seen as both goals for teaching information seeking and outcomes of learning information seeking, implying a close relationship between information seeking and information literacy in educational settings. In her research Limberg identified and described two different categories of students' ways of assessing the cognitive authority of information. One implies focusing on the surface signs of information, for instance level of expertise of

information source, as well as learned language or material characteristics of a source (quality of paper, web or print design). The second category implies assessing the cognitive authority through a stronger focus on information content and relating expert information to other types of sources, comparing contradictory information between sources with a focus on probing behind the surface, trying to reveal values and hidden interests (Limberg, 1999, p. 131). Later studies indicate that Web supported teaching and learning provides access to a rich and varied amount of information sources as well as freedom for students to search for, select and organise information. Nevertheless, our studies also indicate that assessing the credibility and authority of information sources in Web environments causes serious problems for students, to the extent that many students risk to become losers through the Web (Limberg, Alexandersson & Lantz-Andersson, 2008). These findings actually inform us to some extent about students' ways of assessing the credibility of sources. Implications of these findings will be discussed both for furthering our theoretical understanding of information literacy and for the professional practice of teaching information seeking and use.

Soo Young Rieh: How are college students' credibility assessment related to their information seeking goals and strategies?

This presentation discusses college students' credibility assessment in the context of everyday life information seeking. The problem of credibility is examined with respect to a wide range of information resources and media that students consult in their diverse information seeking activities across academic work, personal information need, entertainment, problem solving, and other daily routines. The presentation consists of two parts. The first part reports on the findings of a qualitative study that has identified how credibility concerns and judgments are embedded in students' information seeking strategies. It is argued that credibility assessment is better understood as an iterative process that may change over time rather than discrete evaluation. The second part introduces a unifying framework of credibility assessment in which three distinct levels of credibility judgments have emerged: construct, heuristics, and interaction (Hilligoss & Rieh, 2007). The construct level pertains to how a person constructs or conceptualizes credibility. The heuristics level involves the use of general rules of thumb to make judgments of credibility that are applicable to a variety of information situations. Finally, the interaction level refers to credibility judgments based on content, source cues, and information object cues. In addition, information seeking context emerged as the dynamic frame that provides the boundaries of credibility judgments. The presentation concludes by emphasizing the importance of taking into consideration a variety of learning goals, information seeking tasks, and information seeking strategies in order to better understand students' credibility assessment in the current learning environment.

Olof Sundin: How can credibility and authority of information be understood in a sociocultural framework on information literacy?

This presentation will take its point of departure in previous research on web-based mediation of information literacy (Sundin, 2008) as well as nursing students' learning of information literacy (Sundin, Limberg & Lundh, 2008). Information literacy is in these studies understood in the sociocultural settings in which information artefacts are employed and in which the credibility and cognitive authority is created. This research makes visible, among other things, the context-dependent character of information seeking practices and the lessons to learn for information literacy education. Thereafter, a newly started three year research project - EXpertise, Authority and Control on the Internet (EXACT): A study of the formation of source credibility in Web 2.0 environments for learning - will be introduced. The sociocultural perspective, developed in earlier research, is used as a theoretical framework for the project. In the EXACT project the consequences which Web 2.0 technologies have on the forming of information source

credibility in upper secondary schools are explored. This is achieved in a study of producers, mediators and consumers of information artefacts in relation to Web 2.0, with a particular focus on the prerequisites for source credibility that the material properties of Web 2.0 media shape. The presentation will concentrate on the analytical framework of the EXACT project, the methodological consequences and a selection of some tentative results.

Concluding remarks

The questions addressed by the panelists are constantly increasing in importance along with the growth of new and more interactive digital media. Individuals' responsibility for and capability of critical source evaluation is of significant importance for both information science researchers and professional practitioners. Together, the panel contributes to a more nuanced and deepened understanding of credibility and authority of information in learning environments through the examinations of different empirical settings. The panel therefore wishes, from an information science perspective, to stimulate a continuing discussion and future awareness of these issues. The panel concludes with rich opportunities for discussing the questions addressed with audience participants.

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