Three Theoretical Perspectives on Information Literacy[1]

Louise Limberg*, Olof Sundin** and Sanna Talja***
*University of Borås / **Lund University / ***Uppsala University

The concept of information literacy refers to purposeful information practices in a society characterized by almost limitless access to information and where information practices in digital environments shape and constitute important elements in most people's lives in our part of the world. The meaning of the term information literacy varies according to the theoretical lens from which it is approached. Theoretical starting points are not always clearly stated in, for instance, information literacy definitions, standards, research or educational practices. Regardless of whether the underlying theory is made explicit or not, it will nevertheless have a profound impact on the ways in which we teach or research information literacy. This article discusses alternative theoretical understandings of information literacy and their consequences for educational practices. Three theoretical perspectives are presented that represent different understandings of information literacy; phenomenography, sociocultural theory and Foucauldian discourse analysis. According to all three theoretical lenses, information literacy is embedded in and shaped by as well as shaping the context in which it is embedded. In consequence, we propose the notion of information literacies in the plural. The three perspectives offer different insights on information literacies, on both empirical and theoretical levels. However, a sociocultural perspective also involves particular theoretical assumptions about the ways in which digital environments and tools reshape conditions for learning.

Limberg, Louise, Olof Sundin & Sanna Talja. "Three Theoretical Perspectives on Information Literacy." *HUMAN IT* 11.2(2012): 93–130.

Keywords: discourse analysis, information literacy, library and information science (LIS), phenomenography, sociocultural theory

"All information-seeking behaviour is learnt, nothing is innate" according to Tom Wilson (1994, 42). The view of information seeking as something that is learnt is well in accordance with the view that the appropriation of information literacy may be a goal for learning. However, information literacy can be approached as an object of teaching as well as an object of learning. In librarianship information literacy appears particularly often as an object of teaching. It follows therefore that we can assume that literacy is the outcome of learning. We may also claim, however, that all learning is embedded in cultural practices and imbued with norms and values, since learning implies developing one's ability to understand and act in gradually more sophisticated ways within a specific practice. Norms may be expressed explicitly in goals for learning assignments or curricula, and as such, are often grounded in research-based ways of understanding a phenomenon, for instance 'photosynthesis', 'reasons for climate change' or 'information literacy'. Norms may also be implicit and based on expectations about certain ways of acting in relation to tools and people in different social practices, such as school or work-life. Cultural practices entail shared norms and ideals that form the basis of education as institution in our society.

The interest of this article is to discuss different theoretical perspectives on information literacy and their implications for educational practices. It is obvious to us that the meaning of the term 'information literacy' varies according to the theoretical lens from which it is approached. However, theoretical starting points are not always clearly stated in, for instance, information literacy definitions, standards, or educational practices. Regardless of whether the underlying theory is made explicit or not, it will nevertheless have a profound impact on the ways in which we teach or research information literacy.

Three theoretical perspectives are presented that represent different understandings of information literacy: phenomenography, a sociocultural perspective and Foucauldian discourse analysis. The choice of perspectives is grounded in the fact that all three are well represented in Nordic information literacy research as opposed to the large body of information literacy research conducted using cognitivist approaches. The phenomenographic research approach forms the basis for a series of influential studies on information literacy conducted in Sweden, Australia and the United Kingdom. The sociocultural perspective which is increasingly used in information literacy research has brought into view how people's use of information cannot be meaningfully separated from the tools that are an integral part of social practices. Both phenomenographic and sociocultural theories are explicitly grounded in theories of learning. Discourse analytical approaches have been used to explore understandings of information and literacy practices from a broader historical and sociological perspective.

All three theoretical approaches conceive of information literacy not as a stand-alone discipline or specialty, but as a field of research where theoretical understandings of information, learning and knowledge are fundamental. Library and information science contributes to this research through its focus on information and information practices, and by showing how the interaction between information seeking and use and learning is of vital interest.

It is evident from this article that we join the circle of researchers who strive for a critical scrutiny of the construct of information literacy with the aim of reaching a deep and multifaceted understanding of how the concept can be interpreted and what it stands for. We embrace the idea that the term information literacy captures abilities of significance in contemporary society. The concept refers to purposeful information practices in a society characterized by almost limitless access to information and where information practices in digital environments shape and constitute important elements in most people's lives in our part of the world. We identify a fruitful area for research on information and learn-

ing practices, where information literacy constitutes the object of study. Here, our aim is to show that theoretical illumination of information literacy may contribute to the development of professional information practices related to learning and teaching. We view this as an area of common interest between research and occupational practices, where people are busy with studying, teaching and learning to seek and use information.

Information Literacy

Information literacy is often defined as the ability to search for, select, critically evaluate and use information for solving problems in various contexts, such as independent project work in schools. We interpret the emphasis on seeking and selecting information sources in various programmes of information literacy instruction as indicative of the long tradition of library use education primarily focussed on sources, search techniques and the evaluation of information (cf. Bawden 2001; Sundin 2008).

The term information literacy has been mainly used in the context of library practice. During the last decade it has attracted increased attention within learning as well as in library and information science and has been used to describe practices in schools and undergraduate education. Given librarians' long-term engagement with issues of information literacy it is worth observing that the term 'information literacy' was not originally coined in the world of librarianship. The first instance of the use of the term is by Paul Zurkowski in a 1974 report on future needs for various competences in work life in business and industry in the US (Bawden 2001, 230; Bruce, C. S. 1997, 5; Kapitzke 2003b, 55).

Information literacy has also been described as a way of learning (Bruce 2008). This interpretation relates information literacy to the concept of lifelong learning (Bruce 2003). Other ideas about information literacy include, for instance, Lloyd's (2005) concept of 'information literacy landscapes', and an understanding of information literacy as information management and handling skills (e.g. Huvila 2010; Talja 2010). Before further

exploring the theoretical frameworks for information literacy, let us briefly consider the components of the composite term: information and literacy.

Information

In library and information science information is a core concept, yet it is neither simple nor unambiguous. For the purpose of this article we shall confine ourselves to some characteristic features of the ways in which the term is used in research that is relevant for information literacy studies.[2] In its most conventional meaning, the term information in the information literacy context refers to (primarily textual) information sources published in print or digital form. However, at this time, it is not meaningful to restrict information to text only – information can be almost anything that carries informative potential. Buckland's classic conceptual analysis of 'information' (1991) serves information literacy purposes well. Buckland makes a distinction between information as process (the activity of informing or being informed), information as knowledge (that which is imparted through the process), and information as thing (physical entity). This means that information has several dimensions: it is related to and embedded in specific activities, it is something that refers to content, and it has a material form and existence.

Literacy

In a review of historical changes in the curricular goals of reading education Säljö (2009) notes that today's requirements for functional literacies are very high, compared to earlier periods in history. The meaning of literacy has expanded from the skill of reading and writing to a web of abilities and competences. For instance, UNESCO's Literacy Assessment and Monitoring Programme (LAMP) defines literacy as

> *the ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts. Literacy involves a continuum of learning enabling an*

> *individual to achieve his or her goals, develop his or her knowledge or potentials, and to participate fully in the community and wider society.* (UNESCO 2005)

Literacy is here not simply the ability to read and write, since people also need to be able to understand, interpret and assess texts, to evaluate statements, and to be able to take a standpoint when faced with flows of contradictory messages via various media and different types of sources. The point of departure of the LAMP definition is the empowering nature of literacy; literacy does not only transform individuals but is also the condition for individuals' power to transform society. Literacy therefore extends from a mechanical skill to the ability to think critically and challenge dominant ideologies.

The rapid development of information and communication technologies (ICTs) and new media during the last decades has further increased the need for expanding the definitions of literacy. The new skills requirements related to the emergence of new media and technologies have been given names and labels, such as information technology literacy, digital literacy and media literacy. The term information literacy is closely related to these other terms, signifying competences that are particularly important in contemporary society and linked to the ongoing development of ICTs and digital media.

The following sections will be devoted to the main interest of this article, which is the presentation and discussion of three different theoretical lenses applied for understanding the notion of information literacy, and some consequences of this discussion related to information literacy education.

A Phenomenographic Perspective – Focus on Variation

A phenomenographic approach is basically directed at studying variation in people's ways of experiencing different phenomena, for instance information literacy. Phenomenography is grounded in a constructivist view of learning, emphasizing the importance of understanding the learners'

perspective; that is learners' ways of understanding the object of teaching/learning, e.g. the notion of source credibility. Learning is viewed as an activity of constructing meaning, not as the transfer of knowledge from teacher to student.

Phenomenography emerged from empirical studies on learning conducted at the University of Gothenburg in the 1970's (Marton & Booth 1997) and has later been developed into variation theory (Marton & Trigwell 2000). Today, the term phenomenography generally refers to the methodological approach of studies adopting variation theory.[3] Common features of a phenomenographic perspective emphasize the significance of subject content, disciplinary area and professional practice for the interpretation and view of information literacy. A basic phenomenographic assumption is that phenomena in the world are experienced in various ways and that it is possible to capture and describe patterns of variation in a limited number of categories that together shape the phenomenon.[4]

The interest of phenomenography to explore patterns of variation of ways of experiencing a phenomenon differs from efforts to describe information literacy as a set of generic skills applicable regardless of situation or context. This is where the generic interest contrasts with the objective of describing variation tied to situation, task, knowledge content and contexts such as school, work-life or everyday life. However, an idea fundamental to phenomenography is that variation appears not only between situations or contexts but also within them. In this way, variation between people's experiences of information seeking and use, linked to the same task or situation, captures different ways of engaging with information, which may in turn be linked to different ways of experiencing meaning in information, and thus has implications for learning from information. Phenomenographic studies are characterised by directing a strong interest in learning. Influential Australian studies define information literacy as a way of learning and position the research in the area of learning research rather than library and information science (Bruce 2003). These studies emphasize the use of information instead of

seeking and finding, which are often insisted on in practices of information literacy education. Christine Bruce brings out the mutual relationship between information use and learning and proposes the term 'informed learning' for "engaging in information practices in order to learn, engaging with the different ways of using information to learn" (Bruce 2008, vii). A similar conclusion was drawn by Limberg (1998; 1999) claiming that it is the differences between students' ways of using information that interact closely with the quality of their learning outcomes, not their ways of seeking and finding information.

Variation in Experiences of Information Literacy

Phenomenographic studies have explored ways of experiencing information literacy within different groups, such as students in school, undergraduate students, and higher educators within various disciplines, as well as academic librarians and researchers. These studies enable us to compare various views of information literacy from different perspectives, for instance similarities and differences between a teaching and a learning perspective or between teachers and librarians.

Most empirical research adopting a phenomenographic approach has been conducted as interview studies sometimes combined with observations in naturalistic settings. Interviews are semi-structured and concentrate on a limited number of questions aimed at capturing the different ways in which interviewees experience a particular phenomenon, for instance, information literacy. Findings from these studies refer to the collective level, describing variation in experiences of the phenomenon under study. This means that it is not differences between individuals that are the focus of research interest.

Christine Bruce's findings of higher educators' experiences of information literacy (1997) broke new ground through the description of patterns of variation. Her findings present seven faces of information literacy organized in a hierarchical structure, where face 1 is the most limited and face 7 is the most complex. The seven faces focus on 1) IT: being

able to use IT for seeking and communicating information, 2) sources: seeking and finding information sources, 3) process: executing an information seeking process, 4) control: to organise and control information, 5) knowledge construction: building a knowledge base in a new area of interest, 6) knowledge extension: working with knowledge and personal perspectives for novel insights, and 7) wisdom: using information wisely for the benefit of others (Bruce C. S. 1997, 110). According to a phenomenographic perspective, the seven faces (or categories) together constitute information literacy. Despite the development of digital media since 1997 these faces still function as a way of conceptualising different aspects of information literacy.

A particular point of describing variation in experiencing a phenomenon is that the various experiences do not need to be classified as 'right or wrong', but rather as different ways of viewing and acting upon something. However, it can be claimed that a view of information literacy that is restricted to using IT or to seeking and finding information sources is too limited to cover the complex variations in conceptions described in Bruce's seven faces. A view of information literacy embracing all seven faces will have clear implications for ways of teaching information literacy. This might lead to less emphasis on seeking and finding information, which is still prevalent in instructional models and tutorials (e.g. Sundin 2008) in favour of paying more attention to the evaluation, assessment, analysis, interpretation and ethical use of information with a view to constructing meaning from information.

Studies of teachers' views of information literacy indicate some conformity but also differences between teachers and librarians. A clear difference between university lecturers' and librarians' views of information literacy concerns the idea of an information need (Boon, Johnston & Webber 2005). An identified information need is often indicated as triggering information seeking and is seen as an essential dimension of information literacy by librarians, while lecturers rarely experienced or expressed an explicit information need. Several studies also indicate differences relating

to the notion of information. Lecturers in English tend to favour printed texts as sources whereas lecturers in marketing take a broader and more varied view of information and include news, market reports, web sites and organisations (Webber, Boon & Johnston 2005). Lupton (2008) found that music students experience information as music and access to and use of instruments. Both lecturers from various disciplines and librarians underscore critical thinking and independent learning as important dimensions of information use, but while lecturers from the humanities focus on research and text production, lecturers in marketing are more interested in business intelligence and problem solving (Webber, Boon & Johnston 2005). Williams and Wavell (2006) found that secondary school teachers emphasise linguistic understanding and the ability to construct meaning from information in stronger terms than can be found in descriptions of information literacy in library practices.

The patterns of variation of different experiences of information literacy described in these research studies imply a non-dualistic view of information as constituted through the relation between people and their experiences of engaging with intellectual and material content and artefacts for constructing meaning.

Relevance for Teaching

As mentioned above phenomenography is grounded in constructivist theories of learning. Constructivism views learning as a change in understanding of the phenomenon which is the object of learning, in our case purposeful information seeking and use. The idea of 'purposeful' refers to the values and norms of the particular context or situation where information literacy is to be learnt. From this follows that information literacy can be regarded as a goal for learning linked to a particular task or curriculum, while various aspects of information practices form the objects of learning. A constructivist view of learning claims that knowledge or abilities cannot be directly transferred from the active teacher to the 'receiving' student. Instead, the theory implies that teaching takes its point of

departure in the learners' ways of understanding and acting on information seeking and use. To this end phenomenographic categories of description are applicable as objects of learning to consciously use in collective interaction in classrooms and libraries in order to enable different views of information practices to diverge and be challenged (cf. Marton, Runesson & Tsui 2004; Marton & Trigwell 2000).

In this vein Andretta (2007) showed how the active use of varied views of information seeking and use afforded students the possibility to develop their abilities to select and evaluate sources, search different databases and use information critically for writing a paper or carrying out a project. In this kind of teaching focus is shifted from information literacy based on experts' lists of skills or instructional models which imply right or wrong ways of seeking and using information. Instead teaching is directed at learners' various ways of experiencing purposeful information seeking and use related to the situation or context where it is practiced.

We further suggest that phenomenographic categories of description can be used to cross borders between disciplines and professions. They capture how information literacy is experienced by various groups in various situations and contexts and thus enable comparisons of similarities and differences across borders. Awareness of such variation is not often obvious, and instead teaching tends to be based on taken for granted views of information literacy as generic and universal across contexts, disciplines and situations. We propose that by making explicit the variation in experiences of information literacy we have the potential to improve conditions for collaboration between different professional groups such as teachers and librarians and thus offer possibilities to enhance the quality of information literacy education (Limberg & Folkesson 2006, 124–125). Likewise, descriptions of variation of experiences of information seeking and use between researchers from different disciplines may shape particularly favourable conditions for information literacy research (Limberg & Alexandersson 2010).

A Sociocultural Perspective – Focus on Communication in Social Practices

Researchers adopting a sociocultural perspective often start from the writings of the Russian researcher Lev Vygotsky (1896-1934) and the significance of people's use of cultural tools when learning is discussed. The sociocultural perspective on learning emphasises the relationship between individuals and various forms of collective practices. For instance, a student is part of a university programme, which in turn forms part of a discipline which is situated in as specific university; a librarian is active in a workplace and is at the same time a member of an occupational group. It is by communicating through cultural tools that we participate in practices of various kinds. Within a practice different ways of communicating evolve that are more or less specific to that practice (Säljö 2000, 207). Moreover these practices exist within a society that is evolving in itself.

In order to participate in a practice and its activities individuals need to learn a specific language where certain concepts, theories and beliefs are central. Hence, information literacy implies learning to communicate appropriately within a specific practice. The sociocultural perspective further underlines that this is also about being able to use physical artefacts for communication in a way that corresponds with the purpose of the practice (Lankshear & Knobel 2008; Säljö 2000, 37). This includes artefacts which enable us to find, work with and use information; for instance, scientific journals, databases and web sites. Both linguistic expressions and the physical artefacts into which these are built are seen as cultural tools that individuals may use for a specific practice (Säljö 1999; 2000, 80). The notion of tool implies that the artefacts acted upon are created and used by people for specific purposes in a specific culture, in most cases in order to achieve something that would not have been possible without this tool (ibid.). Accordingly, in a sociocultural perspective learning is referred to "/.../ as the appropriation and mastery of communicative (including conceptual) and technical tools that serve as mediational means in social practices" (Säljö 1996, 91).

We regularly devote ourselves to a range of activities in order to maintain social contacts, carry out work tasks or errands in everyday life. We blog, google, tweet, or search for books in library catalogues and databases, etc. It is impossible to imagine these activities without the tools linked to them. The inseparable relation between action, physical as well as linguistic, and tool is central in a sociocultural perspective (Säljö 1999) on information seeking and learning information literacy. When we want to seek information Google offers us a sophisticated tool through which we are able to reach and use sources in a manner that we could not have dreamed of only 15 years ago. Today, with the prevalence of social media like Facebook, Twitter or blogs, and myriads of various other networked tools we are able to keep ourselves updated in ways difficult to imagine before these tools were conceived. At the same time, it is important to remember that a sociocultural perspective implies that tools also bear limitations (ibid.). The functions of search engines and social networking tools influence our possibilities for action through offering us both resources and restrictions; as information seekers we are at the mercy of Google's individualised ranking of search hits. Likewise, we are dependent on the functionalities offered by Facebook or Twitter. In a similar way, the language tools available within a scientific discipline shape – to a degree – what can be thought, said or written.

The integration of linguistic and physical tools is of particular interest for library and information science scholars who often study technologies where language and materiality go hand in hand. In print media such as books and journals, we see how content and form constitute a whole. In the digital world this is not as obvious. Texts can be easily copied from one context to another, they are aggregated in news services such as Google news and we get the impression that information is floating without relation to the physical artefacts as such (cf. Tuominen 2007). A sociocultural perspective emphasizes the material aspects of digital information. For instance, the way in which a web page is structured and functions will influence the conditions for interacting with it. Bertram Bruce has

put into words the consequences of such a perspective on our way of theorizing literacy from a sociotechnical viewpoint:

> *[...] the technologies of literacy are not optional add-ons, but are part of the definition of every form of literacy. Thus, a theory of literacy in a particular setting or community needs to incorporate an analysis of the relevant technologies, much as we more often include analyses of textual content, pedagogical procedures, personal backgrounds, or institutional agendas.* (Bruce, B. C. 1997, 304)

Information is then not viewed dualistically as either placed within an individual or within an artefact; instead information and the meaning of information is seen as shaped through dialogue with artefacts in practices, a view which will be further developed in the next section.

A Sociocultural View of Information Practices

James Wertsch describes how advocates of a sociocultural perspective share an interest in what he calls human action: "In all cases, they are primarily concerned with describing, interpreting, or explaining action, as opposed to some other phenomenon such as behaviour, mental or linguistic structure, or attitudes" (Wertsch 1998, 12). Wertsch talks of mediated *action,* however, it is easy to see how his notion of action can be related to what is here referred to as a practice, i.e. an array of activities (cf. Schatzki 2001). Using the notion of practice emphasizes that information seeking happens through a succession of activities of social character; information seeking is thus seen as embedded and embodied in different social practices (cf. Gee 1990, 42 ff.; Lloyd 2010). Artefacts and activities take on meanings in a certain practice and therefore information literacy research should take these practices as a starting point. In library and information science an interest in studying information seeking as practices has evolved during the last few years among researchers with otherwise different theoretical allegiances (e.g. Haider 2011;

Johannisson & Sundin 2007; Lloyd 2007; 2010; McKenzie 2003; Savolainen 2007; Talja & McKenzie 2007; Tuominen, Savolainen & Talja 2005; Veinot 2007).

A sociocultural perspective emphasizes that information seeking is carried out for a specific purpose in a specific practice, for instance for writing an academic paper, and with the help of tools such as a library catalogue, a bibliographic database or Google Scholar. Interesting questions for information literacy research, not least for understanding how people learn to seek and use information, relate to how practices and digital media (and other tools for interacting with information) transform each other. How do contemporary digital environments contribute to the shaping of conditions for learning? What do the new tools used for seeking, assessing and mediating information, mean for our understanding of expert knowledge and the critical assessment of sources, particularly where texts are increasingly user generated? Such and similar questions are significant for a sociocultural perspective on information seeking, and learning information literacy.

Practices are shaped through interaction between tools and people and, at the same time, the meaning of these tools varies across different practices. While people always act in relation to the tools that are accessible within a practice these tools are reshaped through a practice's repeated activities. Tools and practices are thus neither static nor predetermined; as collective resources they are always dynamic and developing (Säljö 1999).

Within a sociocultural perspective people's activities should be studied in relation to the tools through which the activities take place and based in the social practices where the activities are carried out. Hence, a sociocultural perspective often favours ethnographically oriented research, in which rich qualitative descriptions of people's activities in their 'natural' settings form the basis of analysis. Roger Säljö (e.g. 2000, 80ff.) discusses how these tools and practices have evolved through history and argues that they are to be seen as collective resources that shape perspectives and ideas while in use. As stated above, language categories and concepts form

parts of the physical tools and more often than not they are impossible to separate. Säljö (2005, 51ff.) shows how this is valid not least for tools designed for communication such as books, clay tablets or databases. This implies that seeking, critically scrutinizing, compiling or publishing information are always to some extent social activities. For example, the ways in which students today understand information seeking is integrated with their understanding of the physical artefacts for information seeking, such as Google, blogs and Wikipedia. That is, action mediated by tools and carried out in certain contexts constitutes the unit of analysis (Wertsch 1998, 23ff.). Thus, tools are not neutral to our activities, they are impregnated with perspectives, norms and values which *mediate* our understanding of the world (ibid. 40). They make us do and see things in ways that we are not always conscious of. For information literacy education this implies that it is important to reveal and make explicit the perspectives, values and beliefs connected to specific tools for information seeking and how the application and understanding of these tools differ in different practices.

User Education and the Situated Character of Learning

A sociocultural perspective emphasizes the situated nature of learning, implying that what we learn is connected to a specific situation and practice. This view problematises the idea of transferring what is learnt from where it was learnt to use in a different practice. More precisely, the idea of generic aspects of learning information literacy is challenged. This emphasises that within a sociocultural perspective learning information seeking within one field, i.e. becoming information literate, does not easily translate into another field. Already the use of the concept of 'information' itself could be regarded as problematic since information is often represented as something unambiguous, regardless of the context where it is situated or its mediated and contextual character (cf. Frohmann 2004). This is to say that a decontextualised notion of information may conceal

information's materiality. Hence, with a reference to Buckland (1991) one could argue for an increased interest in information as thing.

If learning information seeking and use is situated, is it at all possible to talk about information literacy in general? What is generic across sites and practices regarding what is usually included in discussions on information literacy, and what is specific, embedded and context dependent? In a study on user education Sundin (2008; cf. Limberg & Sundin 2006) identified and presented different approaches that touch upon this issue. Generic components in user education regularly focus either on information seeking as a cognitive process or on information seeking behaviour. When processes are in focus, it is usually Kuhlthau's (1991) studies of how people experience and handle information seeking linked to problem solving, that are being drawn upon. For instance, a focus on behaviour might be described by how different computer-based information systems, regardless of subject or context, should be navigated. Situated aspects of information seeking, on the other hand, either concentrate on presenting different artefacts or the contexts and practices that they are part of. A focus on the tools attributes individual books, databases, journals or web sites particular importance in user education, while a focus on contexts attributes a particular role to the practices where significance and meaning are negotiated. Clearly, generic competences concerning, for example, how information is organised, communicated and retrievable in digital environments (as well as in print media) do clearly exist and we often build on them. Yet, it is important to remember that the meaning of information and information seeking is also constructed in specific practices and this needs to be taken into account in the design of user education for information literacy.

The view of learning as situated permeates the sociocultural perspective, but it is also a specific theory formulated by Lave and Wenger in their book *Situated Learning* (1991). Lave and Wenger describe human learning within a practice as 'legitimate peripheral participation'. This notion concerns how people learn through participation in communities

that Lave and Wenger label communities of practice. Such a community is constituted by collective resources that individuals make their own (appropriate) through active participation. One of the main points made by the authors is that learning is situated within the community of practice where it happens. Tuominen, Savolainen and Talja (2005) elaborate on this theoretical strand when they discuss the situatedness of information literacy. Another example is Lloyd's work (2007) in which she draws on situated learning theory for framing information literacy seen as a practice at the workplace, including not only textual knowledge, but also corporeal aspects. A theory of situated learning has implications for user education in general and also in libraries. Do students learn to use a library as a separate, de-coupled activity or does the library support the practice within which students are students, i.e. where they come for help, for instance for writing a paper on a particular subject? In other words, what is the point of departure for teaching or service? Is it the library or the library users?

A Discourse Analytic Perspective – Focus on Historical Forms of Thought

A discourse analytic perspective on information literacy aims at capturing the socially and culturally shaped ways of understanding information competences and information practices. Rather than analyzing what people do or how people in practice perform specific information tasks, discourse analysts study the *interpretive repertoires* (Talja 1999) through which people give meanings to information competences and practices. The discourse analytic perspective thus focuses on information literacy discourses rather than accepts the nature of information competences as uncontested phenomena. In addition to the studies that focus explicitly on information literacy discourses (e.g. Haider & Bawden 2007; Heok & Luyt 2010; Kapitzke 2003a; 2003b; Pawley 2003; Tuominen, Savolainen & Talja 2005), many other discourse analytic studies in library and information science and other fields are relevant for information literacy research in that they discuss conceptions of the nature of information, information needs, and information and communication technologies.

Most discourse analytic studies published in library and information science so far have focused on how scholarly and professional texts portray the roles and competences of information users (e.g. Hedemark, Hedman & Sundin 2005; Olsson 2009; Talja 1997). These studies have found that in the literature 'users' are generally portrayed as non-knowers, as 'needy individuals' rather than as competent information creators or as experts in their own areas of interest. In an article analyzing discourses of information poverty, Jutta Haider and David Bawden (2007) concluded that the "information poor" are, essentially, products of institutionalised professional library and information science discourses. These discourses in turn are tightly intertwined with more general historical knowledge formations, for instance, discourses concerning the information age, the nature of information, and the nature of information technologies.

Michel Foucault was the first to formulate discourse analysis as a research approach in *The Archaeology of Knowledge* (originally published in 1969). He defined discourses as systems of statements that systematically form the objects of which they speak (Foucault 1972). In defining discourses as 'systems of statements', he emphasized that discourses are knowledge formations: sets of interlinked claims, assumptions and meanings. What connects these claims and meanings is that they represent a specific lens. In Foucault's theory, each discourse provides only a limited and partial perspective for producing knowledge about a topic. A researcher analysing discourses of information literacy tries to identify the specific lens and background assumptions that underpin a specific way of discussing information literacy.

For instance, Haider and Bawden (2007) noted that when we talk about information poverty, we assume that information poverty is an objective condition that exists in the real world, that people lacking access to specific types and genres of information are in fact ignorant and underprivileged. Simultaneously, we assume that some other populations, in turn, are information rich, and therefore privileged. When we talk about information poverty as a condition existing in the real world, we

implicitly position ourselves among the privileged; those who are capable of using information and who benefit from the power of information. We do not adopt this view consciously or intentionally, rather, this subject position is part and parcel of the information poverty discourse. In many ways, individual speakers are not the originators or producers of discourses. We are users of already existing discourses; we have no recourse but to use the language available to us. When using existing expressions and conceptualizations, we accept implicit claims about, for instance, the nature of information, claims that we would not necessarily readily accept as truthful or valid if we were to place them under conscious scrutiny.

Discourses and Institutionalised Practices

In every field, it is possible to distinguish mutually incompatible, competing and alternative discourses. For instance, the concept of critical thinking has been found to have radically different meanings in different disciplinary discourses (Kautto & Talja 2007; Woolwine 2010). In information literacy standards, critical thinking conventionally means the evaluation of the reliability and credibility of information sources by the authority and (academic or non-academic) status of the creator of their content. Such standards are implicitly based on a division between "informational genres" (scholarly texts, encyclopedias, textbooks) and "non-informational" genres (e.g. unofficial websites, blogs, commercials) (Tuominen, Savolainen & Talja 2005).

Cushla Kapitzke (2003a), in her critical analysis of school libraries' information literacy discourse, argued that such an approach to critical thinking represents a positivist philosophical orientation that is incompatible with concepts and theories of knowledge, epistemology, language and text that permeate poststructuralist philosophical traditions. According to Kapitzke's analysis, the epistemological assumptions of the information literacy framework are based on a universalist cognitive characterization of information as a neutral resource for learning through problem solving. School libraries are portrayed as places where authoritative information can

be found, and students' activities are, in turn, implicitly understood as mainly fact-finding activities resulting in the weaving together of assumedly interrelated pieces of information. Students are "information detectives", and "seekers of truth" (Kapitzke 2003a). Truth in this context is constructed as certain, objective and good, something that can be detected through using dispassionate and rational problem-solving techniques.

Both Kapitzke's (2003a; 2003b) and Pawley's (2003) discourse analytic studies maintain that positivist assumptions of epistemological neutrality and objectivity express a desire for permanence and canonicity, which is in line with schools' traditional "hidden curriculum", but neglects the sociocultural, historical and ideological foundations and processes of knowledge construction and justification. Kapitzke and Pawley propose a sociologically critical discourse synthesis approach as an alternative to the Enlightenment thinking which historically has prevailed in information literacy discourses. The discourse synthesis approach focuses on language use and on the means by which texts, in a broad sense, are crafted to achieve effects, for example, to justify positions, and in how texts contribute to the making, reproduction and transformation of facts and truths.

Discursive Shifts

According to Foucault, discursive shifts take place when an established way of framing and approaching a topic begins to appear as too one-sided and limited. Discursive change entails new definitions for established concepts. For example, the concept of multiliteracies emerged as a challenge to established ways of thinking about literacy. According to the multiliteracies discourse, our conventional understanding of literacy stems from pre-digital contexts and from specific linguistic and cultural environments. The multiliteracies concept was coined to foreground less established and renowned cultural forms (such as rap or blogging), seeking to convey an idea that people can be literate in numerous types of written or spoken documents or media. Some researchers have argued that the multiliteracies concept leads to a serious conceptual confusion concerning

the distinct dimensions of literacy practices (Buschman 2009). Others maintain that the multiliteracies concept is advantageous in that it does not foreground or represent the interests of any specific professional or cultural group (Gee 2004; Kapitzke 2003a).

Historically strong discourses do not vanish or lose their relevance with the emergence of new discourses. Although there are many competing discourses concerning a specific issue like information literacy, not all discourses are equally powerful and influential in streamlining action and curricula. Concepts such as 'digital literacy' and 'new literacies' indicate efforts in contemporary society to capture and describe more multifaceted competences than those usually embraced in traditional definitions of literacy. However, according to Foucault (1972), power works through established, institutionalised practices and fields of knowledge. Despite the efforts to bring out-of-school cultures and practices and schooled literacies closer together through theories of digital and new literacies, the traditional concept of literacy and the traditional concept of information literacy both still function as the 'glue' and trademark of education and school library pedagogic practices (Barton & Hamilton 2005; Kapitzke 2003a; 2003b; Rantala 2010).

Discourses and Educational Practices

The identification and analysis of competing and alternative historical forms of thought is important for two reasons. First, when different conceptions of a specific issue are brought into view, the most self-evident and powerful viewpoints are destabilized. They tend to lose some of their credibility and status as objective truths; we come to realize that more than one truth exists. Second, analyzing variability in ways of conceptualizing the nature of a specific issue or phenomenon (such as literacy or information) opens up new viewpoints and promotes novel understandings concerning the topic at hand.

Keith Grint and Steve Woolgar (1997) analyzed the regimes of truth that surround technology. They argued that the way in which techno-

logies are described in texts and talk shapes what we see and do not see in them, how we interpret the functions, roles and capabilities of technologies, and how they are ultimately used, for instance, in schools. In an analysis of definitions of computer literacy, Talja (2005) showed that information society initiatives and information literacy programs exert strong pressures to which individuals and institutions try to respond. Conceptualizations and definitions of terms such as computer literacy influence how computer training is concretely organized, and who are seen as experts in society in matters related to computing and networked information. When large amounts of money and effort are invested in web-based learning and electronic literacy in schools or other institutions, it is important to pin down the assumptions that form the basis for teaching practices. Discourse analytic studies also attempt to assess whether there are aspects of knowledge, learning and expertise that are underrepresented in general discussions and school environments.

As the primary aim of discourse analysis is to bring into view taken-for-granted understandings and implicit assumptions, it is of course necessary to ask how such research helps in concretely planning information literacy education or in designing educational technologies and practices. Discourse analysis in its pure form is fundamentally interpretive. Flis Henwood (2000) argues, however, that since different learning and computing philosophies give rise to different curricula, more diversified understandings of learning, information and technology will open up different spaces for learners, and expose them to views different from what might otherwise be the case.

Comparison between the Three Theoretical Perspectives

The three theoretical perspectives presented in this article emphasize different features of information literacies with regard to what is in focus and how the concept is used. These differences are summarized in Table 1.

Theoretical Perspective	Phenomenography	Sociocultural Theory	Discourse Analysis
History	Marton et al. 1970's	Vygotsky (1896-1934). Translated into English in 1960's–70's	Foucalt 1969
Focus	Different patterns of ways of experiencing information literacy	Tool-based information literacy practices within specific contexts and communities	Identify broad historical information literacy discourses
Research Outcomes	Understand variation in people's experiences	Understand people's practices within specific communities	Understand variation in interpretive repertoires
Information Literacy	A pattern of variation of experiences of engaging with information in order to learn	Learning to communicate within a specific practice	Constructed differently in different conversational contexts
Lens on Information and ICT	Constituted through relations between people and what they conceptualise as information. Focus on how learners construct meaning from information	Physical as well as linguistic emphasis on plurality of information forms and tools	Socially and discursively shaped, but also shaping subjects and social orders
Lens on Learning	Qualitative changes in experiences of concepts or phenomena	How people appropriate tools which mediate action	How implicit cultural orders and assumptions guide teaching practices

Table 1. Comparison between the three theoretical perspectives.

Phenomenography places learners in the centre, those who are supposed to become information literate, and it directs its main interest to changes in learners' experiences of engaging with information, from a limited and possibly one-sided view to more varied and complex understandings. The assumption in phenomenography is that such change will lead to more sophisticated approaches to information seeking and use, adapted to different tasks and situations. The focus on variation means that information literacy is described as a pattern of variation which together constitutes the whole of information literacy related to a particular task, content or context. Phenomenographic descriptions open up a range of experiences of information literacy, which in turn may lead to an in-depth understanding of various ways of applying information seeking and use for different purposes.

The focus on variation in talk and texts has a somewhat different goal in discourse analytic research than the very similar analytic method in phenomenography. Foucault-influenced discourse analysis focuses on broader macrosociological and historical forms of thought and on how the way that established forms of knowledge and institutional practices mutually constitute each other. One difference between phenomenography and discourse analysis is that power is a more central interest in discourse analysis. A central theme in the discourse analytic approach has been how the competences and relationships between students or users and librarians or teachers are constructed in different information literacy discourses. The discourse analytic approach does not see power as something that is held or consciously imposed by anyone. Rather, power is equated with the influence of historical forms of thought; that is, established literacy discourses which originally evolved in very specific social and cultural circumstances and which continue to invisibly influence everyday practices in schools and libraries, through established ways of doing things, even when circumstances have changed considerably.

A sociocultural perspective focuses on the practices where information literacy is applied, shaped and re-shaped. A sociocultural perspective mainly

contributes to our understanding of how information literacy may be seen in relation to the tools we use and act upon when carrying out information activities, widely conceived. While phenomenography focuses on the understandings and approaches of learners in relation to information literacy, a sociocultural perspective emphasizes action and interaction, and people as social beings in collective and material practices. A sociocultural perspective is similar to discourse analysis in the way in which learning is seen as a social activity and tools, practices and conditions for meaning-making are shaped collectively. A sociocultural perspective strives to relate this (post)structural level to individuals' learning by exploring how people appropriate and co-develop mediating tools by acting upon them.

The three perspectives offer different insights on information literacies on both empirical and theoretical levels. As regards particular interests in how new technologies and digital media reshape conditions for learning in contemporary society, the sociocultural perspective offers theoretical tools for the analysis of such changes, especially through the emphasis on learning and meaning-making as mediated by tools (digital or others). The sociocultural perspective also posits that the nature of literacies and learning requirements are reshaped with advances in technologies and tools. This is different from phenomenography and discourse analysis, which may direct interest in analysing issues related to experiences and interpretations concerning changes linked to the advent of digital media, but which are not specifically based in theoretical assumptions about the use of various tools.

Learning Information Literacies

Common to all three theoretical perspectives is that they challenge a view of information literacy as a set of generic skills. They emphasize that information literacy can be understood in varied ways and is related to various practices as these are being shaped in institutions, disciplines, discourses or occupations. These theoretical positions form the basis of

our view that information literacy ultimately derives its meaning from the cultural, material and historical contexts where it is defined and applied. This implies that the term information literacy may be used to signify a series of abilities that can be connected to various ways of seeking, selecting, finding, scrutinizing, organizing and compiling information for meaningful use in late modern society, where people are expected to use information for constructing new knowledge (cf. Andersen 2006; Säljö 2009). In conclusion, we suggest the notion of information literacies in the plural in order to draw attention to the significance of our analysis of the theoretical perspectives presented here for understanding information literacy. In this article the main interest has been directed at how information literacies are developed and applied in learning practices while information structures and practices reshape conditions for learning. Other conclusions that we draw concerning how information literacy is enacted in practices of learning and education touch on some of the abilities and skills that people active in different practices acquire and that make them information literate.

Important dimensions of such abilities and skills are still connected to the original meaning of literacy, which in today's society implies sophisticated and complex competences such as reading, interpreting, critically assessing and formulating a position vis-à-vis different standpoints, and likewise to use a range of different tools in these activities. During the last decades conditions for such activities have changed dramatically. Digital information is one aspect of the material context for information literacy, and the growing presence of digital information has seconded research and practice in the field. Hence, practices of information literacy are often discussed and researched in relation to digital information. Traditional professional 'filters of quality' for publishing information compete with new forms of shaping authority and quality control. The development of participatory tools has in many cases led to the deferral of responsibility for controlling information from before to after publication, from editor to reader/user. In educational contexts this

brings issues of source criticism to the fore. The neighbouring (and partly competing) competences mentioned earlier in this article have certain features in common with information literacy regarding the emphasis on the importance of learning how to use different media and digital tools. However, our interpretation is that the concept of information literacy has a particular focus on meaning-making mediated via tools.

Stressing the importance of a critical approach to information is a recurring theme in most descriptions and analyses of information literacies. We argue that this ability can also be connected to more complex understandings of the concept of literacy itself (cf. Säljö 2009 and the LAMP definition from UNESCO mentioned above). The issue of a critical approach to sources has always been a core interest in library and information science and specifically for librarianship. Thus, we suggest that several important abilities and skills relating to information literacies can be directly connected to a broader concept of literacy. In relation to information literacy the term information signifies both the meaning-bearing content and a physical object such as a book or a web source. Content and form mutually shape each other and should therefore be considered as a whole. The theoretical perspectives presented in this article do not perceive of information as either internally or externally generated; instead they propose that meaning in information is created through the meeting between people, practices and tools. To reiterate, what is information is not objectively given; rather it varies between practice, situation and medium. We consider it important to be able to see how criteria for purposeful information seeking and use vary between disciplines, professions, discourses or other contexts, enabling an overview of how information is organized in different areas. This ability may concern understanding how various claims of truth are legitimized in various scientific traditions and the consequences of such claims for shaping scientific texts and how these are represented in different computer-based information systems. This is why seeking information for an academic paper tends to differ between medical students, students of

anthropology, student design engineers, and, not least, professional researchers of library and information science.

One main conclusion from our analysis, hence, is that the concept of information literacies is multifaceted and cannot be described in lists or standards as a series of abilities. At the same time, we view the competences discussed here as having great significance in today's and tomorrow's complex societies and therefore as important objects of learning. This implies that we also view information literacy education as essential. A second main conclusion from our discussion is that information literacies are shaped by and shape various practices and therefore that information literacy education should take its point of departure in the context where these abilities are to be applied. For teaching and learning information seeking and use this emphasizes the importance of identifying and discerning specific abilities intended to support people in developing a repertoire of competences connected to varied information practices.

Acknowledgements

The authors would like to thank Frances Hultgren for her assistance in revising the English language.

Louise Limberg is Senior Professor at the Swedish School of Library and Information Science and the Linnaeus Centre for Research on Learning, Interaction and Mediated Communication in Contemporary Society (LinCS) at the University of Borås and the University of Gothenburg. Her research interests concern the interaction between information seeking and use and learning, linked to issues of information literacy.
Contact: Louise.Limberg@hb.se
www.hb.se/wps/portal/research/researchers/louise-limberg

Olof Sundin is a Professor at the Department of Arts and Cultural Sciences, Lund University, and member of the Linnaeus Centre for Research on Learning, Interaction and Mediated Communication in Contemporary Society (LinCS). His research interests concern information literacies and information practices, mainly in light of the digitisation and configuration of knowledge in contemporary knowledge society and the roles of established institutions in these processes.
Contact: Olof.Sundin@kultur.lu.se
www.kultur.lu.se/o.o.i.s?id=20834&p=OlofSundin

Sanna Talja is Professor of Library and Information Science at Uppsala University, and an Associate Professor at the Unit of Information Sciences, University of Tampere. Her current research focuses on organisational learning, knowledge sharing, and knowledge management. She also studies the mutual shaping of ICTs, digital resources and scholarly communities from a domain analytic and practice based perspective.
Contact: Sanna.Talja@abm.uu.se

Notes

1. This article is a revised and rewritten English version of a contribution to an edited book that was originally published in Swedish: *Informationskompetenser: om lärande i informationspraktiker och informationssökning i lärandepraktiker* [Information Literacies: On Learning in Information Practices and Information Seeking in Learning Practices] (2009). Eds. Jenny Hedman & Anna Lundh. Stockholm: Carlssons.
2. A current overview of categories of definitions of 'information' is provided by Bates (2010).
3. The term 'relational theory' is also used for designating the theory rather than the methodology. In this article we stick to the term phenomenography for discussing the theoretical perspective.
4. Categories are labelled in different ways as aspects (Limberg 1998; 1999), or dimensions (Limberg & Folkesson 2006) or faces (Bruce, C. S. 1997).

References

ANDERSEN, JACK (2006). "The Public Sphere and Discursive Activities: Information Literacy as Sociopolitical Skills." *Journal of Documentation* 62.2: 213–228.

ANDRETTA, SUSIE (2007). "Phenomenography: A Conceptual Framework for Information Literacy Education." *Aslib Proceedings: New Information Perspectives* 59.2: 152–168.

BARTON, DAVID & MARY HAMILTON (2005). "Literacy, Reification and the Dynamics of Social Interaction." *Beyond Communities of Practice: Language, Power and Social Context*. Eds. David Barton & Karin Tusting. Cambridge: Cambridge University Press. 14–35.

BATES, MARCIA J.(2010). "Information." *Encyclopedia of Library and Information Sciences*. 3rd ed. Eds. Marcia J. Bates & Mary N. Maack. Boca Raton, FL: CRC Press. 2347–2360. Also available as: <http://www.tandfonline.com/doi/pdf/10.1081/E-ELIS3-120045519> [2012-04-02]

BAWDEN, DAVID (2001). "Information and Digital Literacies: A Review of Concepts." *Journal of Documentation* 57.2: 218–259.

BOON, STUART, BILL JOHNSTON & SHEILA WEBBER (2005). "A Phenomenographic Study of English Faculty's Conceptions of Information Literacy." *Journal of Documentation* 63.2: 204–228.

BRUCE, BERTRAM C. (1997). "Literacy Technologies: What Stance Should We Take?" *Journal of Literacy Research* 29.2: 289–309.

BRUCE, CHRISTINE S. (1997). *The Seven Faces of Information Literacy*. Adelaide: Auslib Press.

BRUCE, CHRISTINE S. (2003). "Information Literacy." *International Encyclopedia of Information and Library Science.* 2nd ed. Eds. John Feather & Paul Sturges. London: Routledge. 261–263.

BRUCE, CHRISTINE S. (2008). *Informed Learning*. Chicago: Association of College and Research Libraries.

BUCKLAND, MICHAEL (1991). *Information and Information Systems*. Westport, Conn.: Praeger.

BUSCHMAN, JOHN (2009). "Information Literacy, 'New' Literacies, and Literacy." *Library Quarterly* 79.1: 95–118.

FOUCAULT, MICHEL (1972). *The Archaeology of Knowledge.* [1969]. London: Tavistock.

FROHMANN, BERND (2004). *Deflating Information: From Science Studies to Documentation*. Toronto: University of Toronto Press.

GEE, JAMES P. (1990). *Social Linguistics and Literacies: Ideology in Discources*. London: The Falmer Press.

GEE, JAMES P. (2004). *Situated Language and Learning: A Critique of Traditional Schooling*. New York and London: Routledge.

GRINT, KEITH & STEVE WOOLGAR (1997). *The Machine at Work: Technology, Work and Organization.* Cambridge: Polity Press.

HAIDER, JUTTA (2011). "The Environment on Holidays or How a Recycling Bin Informs Us on the Environment." *Journal of Documentation* 67.5: 823–839.

HAIDER, JUTTA & DAVID BAWDEN (2007). "Conceptions of 'Information Poverty' in LIS: A Discourse Analysis." *Journal of Documentation* 63.4: 534–557.

HEDEMARK, ÅSE, JENNY HEDMAN & OLOF SUNDIN (2005). "Speaking of Users: On User Discourses in the Field of Public Libraries." *Information Research* 10.2. Paper 218. <http://InformationR.net/ir/10-2/paper218.html> [2012-04-02]

HEDMAN, JENNY & ANNA LUNDH, EDS. (2009). *Informationskompetenser: om lärande i informationspraktiker och informationssökning i lärandepraktiker.* [Information Literacies: On Learning in Information Practices and Information Seeking in Learning Practices]. Stockholm: Carlssons.

HENWOOD, FLIS (2000). "From the Woman Question in Technology to the Technology Question in Feminism: Rethinking Gender Equality in IT Education." *European Journal of Women's Studies* 7.2: 209–227.

HEOK, ADRIAN K. H. & BRENDAN LUYT (2010). "Imagining the Internet: Learning and Access to Information in Singapore's Public Libraries." *Journal of Documentation* 66.4: 475–490.

HUVILA, ISTO (2010). "What about Creating and Organizing?" Position paper for *CoLIS/Information Literacy Research Seminar 2010, London, June 23, 2010*. <http://hdl.handle.net/2320/6534> [2012-04-02]

JOHANNISSON, JENNY & OLOF SUNDIN (2007). "Putting Discourse to Work: Information Practices and the Professional Project of Nurses." *Library Quarterly* 77.2: 199–210.

KAPITZKE, CUSHLA (2003a). "Information Literacy: A Positivist Epistemology and a Politics of Outformation." *Educational Theory* 53.1: 37–53.

KAPITZKE, CUSHLA (2003b). "Information Literacy: A Review and Poststructural Critique." *Australian Journal of Language and Literacy* 26.1: 53–66.

KAUTTO, VESA & SANNA TALJA (2007). "Disciplinary Socialization: Learning to Evaluate the Quality of Scholarly Literature." *Advances in Library Administration and Organization* 25: 33–59.

KULHTHAU, CAROL C. (1991). "Inside the Search Process: Information Seeking from the User's Perspective." *Journal of the American Society for Information Science* 42.5: 361–371.

LANKSHEAR, COLIN & MICHELE KNOBEL (2008). "Introduction: Digital Literacies – Concepts, Policies and Practices." *Digital Literacies: Concepts, Policies and Practices.* Eds. Colin Lankshear & Michele Knobel. New York: Peter Lang. 1–16.

LAVE, JEAN & ETIENNE WENGER (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.

LIMBERG, LOUISE (1998). *Att söka information för att lära: en studie av samspel mellan informationssökning och lärande*. [Seeking Information for Learning Purposes: A Study of the Interaction between Information Seeking and Learning]. (Ph.D. thesis, University of Gothenburg, Faculty of Social Sciences). Borås: Valfrid.

LIMBERG, LOUISE (1999). "Three Conceptions of Information Seeking and Use." *Exploring the Contexts of Information Behaviour. Proceedings of the Second International Conference on Research in Information Needs, Seeking and Use in Different Contexts, 13-15 August 1998, Sheffield, UK*. London: Taylor Graham. <http://informationr.net/isic/ISIC1998/98_Limberg.pdf> [2012-04-02]

LIMBERG, LOUISE & MIKAEL ALEXANDERSSON (2010). "Learning and Information Seeking." *Encyclopedia of Library and Information Sciences*. 3rd ed. Eds. Marcia J. Bates & Mary N. Maack. Boca Raton, FL: CRC Press. 3252–3262. Also available as: <http://www.tandfonline.com/doi/pdf/10.1081/E-ELIS3-120044669> [2012-04-02]

LIMBERG, LOUISE & LENA FOLKESSON (2006). *Undervisning i informationssökning. Slutrapport från projektet Informationssökning, didaktik och lärande (IDOL)*. [Teaching Information Seeking. Final Report from the Project Information Seeking, Didactics and Learning (IDOL).] Borås: Valfrid.

LIMBERG, LOUISE & OLOF SUNDIN (2006). "Teaching Information Seeking: Relating Information Literacy Education to Theories of Information Behaviour." *Information Research* 12.1: Paper 280. <http://InformationR.net/ir/12-1/paper280.html> [2012-04-02]

LLOYD, ANNEMAREE (2005). "Information Literacy: Different Contexts, Different Concepts, Different Truths?" *Journal of Librarianship and Information Science* 37.2: 82–88.

LLOYD, ANNEMAREE (2007). "Learning to Put Out the Red Stuff: Becoming Information Literate through Discursive Practice." *Library Quarterly* 77.2: 181–198.

LLOYD, ANNEMAREE (2010). "Framing Information Literacy as Information Practice: Site Ontology and Practice Theory." *Journal of Documentation* 66.*2:* 245–258.

LUPTON, MANDY (2008). *Information Literacy and Learning*. (Ph.D. thesis, Queensland University of Technology, Faculty of Science and Technology). <http://eprints.qut.edu.au/16665/> [2012-04-02]

MARTON, FERENCE & SHIRLEY BOOTH (1997). *Learning and Awareness*. Mahwah, N.J.: Lawrence Erlbaum Associates.

MARTON, FERENCE, ULLA RUNESSON & AMY B. M. TSUI (2004). "The Space of Learning." *Classroom Discourse and the Space of Learning.* Eds. Ference Marton & Amy B. M. Tsui. Mahwah, N. J.: Lawrence Erlbaum Associates. 3–40.

MARTON, FERENCE & KEITH TRIGWELL (2000). "Variatio Est Mater Studiorum." *Higher Education Research & Development* 19.3: 381–395.

MCKENZIE, PAMELA J. (2003). "Justifying Cognitive Authority Decisions: Discursive Strategies of Information Seekers." *Library Quarterly* 73.3: 261–288.

OLSSON, MICHAEL (2009). "Rethinking Our Concept of Users." *Australian Academic & Research Libraries* 40.1: 22–35.

PAWLEY, CHRISTINE (2003). "Information Literacy: A Contradictory Coupling." *Library Quarterly* 73.4: 422–452.

RANTALA, LEENA (2010). "Digital Literacies as School Practices." *Practicing Information Literacy: Bringing Theories of Learning, Practice and Information Literacy Together.* Eds. Annemaree Lloyd & Sanna Talja. Wagga Wagga: Centre for Information Studies. 121–142.

SAVOLAINEN, REIJO (2007). "Information Behavior and Information Practice: Reviewing the 'Umbrella Concepts' of Information-Seeking Studies." *Library Quarterly* 77.2: 109–132.

SCHATZKI, THEODORE R. (2001). "Introduction: Practice Theory." *The Practice Turn in Contemporary Theory*. Eds. Theodore R. Schatzki, Karin Knorr Cetina & Eike von Savigny. London: Routledge. 1–14.

SUNDIN, OLOF (2008). "Negotiations on Information Seeking Expertise: A Study of Web-Based Tutorials for Information Literacy." *Journal of Documentation* 64.1: 22–44.

SÄLJÖ, ROGER (1996). "Mental and Physical Artifacts in Cognitive Practice." *Learning in Humans and Machines: Towards an Interdisciplinary Learning Science.* Eds. Peter Reimann & Hans Spada. Oxford: Pergamon. 83–96.

SÄLJÖ, ROGER (1999). "Learning as the Use of Tools: A Sociocultural Perspective on the Human-Technology Link." *Learning with Computers: Analysing Productive Interactions.* Eds. Karen Littleton & Paul Light. London: Routledge. 144–166.

SÄLJÖ, ROGER (2000). *Lärande i praktiken: ett sociolkulturellt perspektiv.* [Learning in Practice: A Sociocultural Perspective]. Stockholm: Prisma.

SÄLJÖ, ROGER (2005). *Lärande och kulturella redskap: om lärprocesser och det kollektiva minnet.* [Learning and Cultural Tools: On Learning Processes and Collective Memory]. Stockholm: Norstedts akademiska förlag.

SÄLJÖ, ROGER (2009). "Medier och det sociala minnet: dokumentationspraktiker och lärande från lertavlor till Internet." [Media and Social Memory: Documentation Practices and Learning from Clay Tablets to the Internet]. *Informationskompetenser: om lärande i informationspraktiker och informationssökning i lärandepraktiker.* [Information Literacies: On Learning in Information Practices and Information Seeking in Learning Practices]. Eds. Jenny Hedman & Anna Lundh. Stockholm: Carlssons. 13–35.

Talja, Sanna (1997). "Constituting 'Information' and 'User' as Research Objects: A Theory of Knowledge Formations as an Alternative to the Information Man-Theory." *ISIC '96 Proceedings of an International Conference on Information Seeking in Context*. Eds. Pertti Vakkari, Reijo Savolainen & Brenda Dervin. London: Taylor Graham. 67–80.

TALJA, SANNA (1999). "Analyzing Qualitative Interview Data: The Discourse Analytic Method." *Library & Information Science Research* 21.4: 459–477.

TALJA, SANNA (2005). "The Social and Discursive Construction of Computing Skills." *Journal of the American Society for Information Science and Technology* 56.1: 13–22.

TALJA, SANNA (2010). "From Teaching Information Literacy to Teaching Information Management? An Information Practice Model for Teaching and Learning Information Competences." Position paper for *CoLIS/Information Literacy Research Seminar 2010, London, June 23, 2010*. <http://hdl.handle.net/2320/6539> [2012-04-02]

TALJA, SANNA & PAMELA J. MCKENZIE (2007). "Editors' Introduction: Special Issue on Discursive Approaches to Information Seeking in Context." *Library Quarterly* 77.2: 97–108.

TUOMINEN, KIMMO (2007). "Information Literacy 2.0." *Signum* 5:2007. <http://ojs.tsv.fi/index.php/signum/issue/view/585> [2012-04-03]

TUOMINEN, KIMMO, REIJO SAVOLAINEN & SANNA TALJA (2005). "Information Literacy as a Sociotechnical Practice." *Library Quarterly* 75.3: 329–345.

UNESCO (2005). *Literacy Assessment and Monitoring Programme (LAMP)*. Montreal: UNESCO Institute for Statistics. <http://www.unescobkk.org/fileadmin/user_upload/efa/EFA_News/EFA_News2006/LAMP_EN_2005.pdf> [2012-04-03]

VEINOT, TIFFANY (2007). "'The Eyes of the Power Company': Workplace Information Practices of a Vault Inspector." *Library Quarterly* 77.2: 157–180.

WEBBER, SHEILA, STUART BOON & BILL JOHNSTON (2005). "A Comparison of UK Academics' Conceptions of Information Literacy in Two Disciplines: English and Marketing." *Library & Information Research (LIR)* 29.93: 4–15.

WERTSCH, JAMES V. (1998). *Mind as Action.* Oxford: Oxford University Press.

WILLIAMS, DOROTHY A. & CAROLINE WAVELL (2006). *Information Literacy in the Classroom: Secondary School Teachers' Conceptions*. Aberdeen: Department of Information Management, Robert Gordon University.

WILSON, TOM (1994). "Information Needs and Uses: Fifty Years of Progress?" *Fifty Years of Information Progress: A Journal of Documentation Review*. Ed. Brian. C. Vickery. London: Aslib, The Association for Information Management. 15–51.

WOOLWINE, DAVID (2010). "Generic Versus Discipline-Specific Skills." *Practicing Information Literacy: Bringing Theories of Learning, Practice and Information Literacy Together.* Eds. Annemaree Lloyd & Sanna Talja. Wagga Wagga: Centre for Information Studies. 169–188.