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Negotiations on Information Seeking Expertise: A Study of Web-based Tutorials for Information Literacy

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Abstract

Purpose: To show how different approaches to information literacy, such as they are mediated through web-based tutorials, are used as tools in negotiating the information seeking expertise of university librarians.

Design/methodology/approach: A textual analysis of 31 web-based Scandinavian tutorials for information literacy has been conducted. The similarities and differences identified are analysed as linguistic expressions of different approaches to information literacy. The approaches are seen as constructions based on a dialogue between the empirical data and the theoretical departure points.

Findings: Four approaches to information literacy emerge in the results: a source approach, a behaviour approach, a process approach and a communication approach. The approaches entail different perspectives on information literacy. They impart diverging understandings of key concepts such as ‘information’, ‘information seeking’ and the ‘user’.

Originality/value: The present study supplements the information literacy research field by combining empirical findings with theoretical reflections.

Practical implications: A reflective awareness of different approaches to information literacy is important for both researchers and LIS practitioners, since the approaches that come into play have practical consequences for the operation of user education.

Keywords: Information literacy, Information seeking, Professionalism, Librarianship

Paper type: Research paper

Introduction[1]

New information and communication technology (ICT) challenges the professional expertise of many occupational groups. One such expertise which is often highlighted in contemporary society is information seeking expertise broadly defined. The ability to seek, evaluate and use information is regarded as highly significant not only in educational practices, but also in forthcoming occupational practices. The mediation of knowledge about how information can be sought, evaluated, and used in various practices has become a central issue for education on all levels and the increasing comprehensiveness of academic libraries' information literacy courses, including web-based courses, should be seen in relation to this development.

It is the purpose of this article to make visible how different approaches to information literacy are used as tools in the negotiation of university librarians' information seeking expertise. This task is undertaken through a textual analysis of 31 web-based Scandinavian tutorials for information literacy. An empirical study of librarians' mediation of information literacy is interesting, since librarianship is an example of a profession which adapts to and uses ICT tools to further their professional interests. Professional expertise is not neutral, but has to be seen as negotiated within and between different professions in relation to changing ICT. In the present article it is argued that changing prerequisites regarding access to information and, not least, regarding the seeking and retrieval of this information has (re)focused the articulation of librarians' professional expertise. The way in which the concept

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of information literacy is dealt with is one important example of the malleable character of this expertise.

The article draws on an empirical study of Scandinavian academic libraries' web-based tutorials for information literacy, and it is framed by a theoretical discussion involving two complex and multi-layered issues which need to be addressed. First, the adequacy of a starting point privileging the information source and its various formats in contrast to one that foregrounds the user, and second, the feasibility of divorcing information and information seeking behaviour from their context and from the subject of information. The exploration of these issues enables the assessment of an aspect of librarians' professional practice, which is currently considered central, while at the same time it opens the way for studying user education and, in particular, the user education on the web. The latter is still a relatively unexplored field within scholarly LIS literature. The study of web-based tutorials for information literacy allows the drawing of a picture of the diverse facets of information literacy. Therefore, the issue at stake is not what information literacy 'really is', but rather the ways in which different conceptions of information literacy are used as tools, in order to further specific conceptions of the information seeking expertise of librarians.

In this article, web-based tutorials for information literacy are considered from a sociocultural perspective as a genre formed in relation to the development of ICT. A sociocultural perspective is characterised by the perception of learning and knowledge as embedded in the culture and context of which learning is a part (e.g. Lave & Wenger, 1991; Vygotsky, 1978). From this perspective it is possible to render a picture of the practices of information seeking that includes aspects of power, rival interests, and the symbolic value of information. The focus on *practices* of information seeking emphasises that information seeking is not a purely

mental activity. Instead, the material and social aspects of these practices are given priority. Furthermore, the sociocultural perspective stresses the importance of studying how people act with the help of tools which have been shaped, in a historical sense, in the context of their use (e.g. Sundin & Johannisson, 2005b). These tools are not neutral, but they *mediate* specific perspectives on the world and the interests of different groups.

The article starts out by considering how information literacy can be related to the professional interests of librarians. This is followed by an overview of different theoretical perspectives on information literacy. Subsequently the research design is presented, followed by the presentation of the results of the empirical investigation of 31 web-based tutorials for promoting information literacy. The article concludes by presenting an illustration of four different approaches to information literacy. In order to gain an improved understanding of the various approaches to information literacy and specifically of their foundations, information literacy is related to research on information seeking. A critical examination of the different approaches is furthermore achieved by positioning them as expressions of librarians' knowledge claims, advanced to extend the scope of their expertise. Together, this is intended to enable a reflective awareness of the various approaches to information literacy and the ways in which they are constituted.

Information literacy and librarianship

Pedagogical issues have long been a concern of librarianship, yet, as Kimmo Tuominen, Reijo Savolainen and Sanna Talja (2005, p. 331) point out in their highly relevant discussion of earlier writings on the topic, it is only since the late 1980s that the term information literacy has found widespread acceptance. Since then information literacy activities of various kinds has generally replaced related terms, including library education as well as information

seeking education and also bibliographical instruction. Recent reviews of information literacy literature reveal that the field is large and that it continues to grow (e.g. Loertscher & Woolls, 2002; Rader, 2002; Tuominen, Savolainen & Talja, 2005; Virkus, 2003).

In earlier writings its has been pointed out that the information literacy literature is often driven by a normative ethos based on the interests of librarians as a professional group than by LIS research (Behrens, 1994; Snavely & Cooper, 1997; Tuominen, Savolainen & Talja, 2005; Webber & Johnston, 2000). Accordingly, the concept of information literacy has primarily been cultivated within the field of university librarianship and it is therefore no coincidence that the most cited definition of information literacy stems from the American Library Association (ALA), more specifically from its section the Association of College and Research Libraries (ACRL):

> Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand. (ACRL, 1989)

Equally, it comes as no surprise that the literature on information literacy was found to be primarily professionally oriented and only to a lesser extent scholarly (Bruce, 1999).

In the present article it is assumed that representatives from the library profession have tried, increasingly, to establish a pedagogical role as central to the professional expertise of

librarians. This can be seen as a consequence of the requirement to adapt to the conditions created by modern ICT and to increasing numbers of students. However, a different reading is also possible, by drawing on theories of professions. In this line of reasoning, the very act of establishing the concept of information literacy and of providing it with content, which in turn leads to the creation of a 'novel' and distinct expert role for librarians, can equally be interpreted as a means of increasing the occupation's status. While seemingly contradictory, these two diverging explanations of librarians' heightened pedagogical role reinforce each other and should not be seen as mutually exclusive. Thus, an augmented pedagogical role can be understood as an attempt to extend the jurisdiction of librarians' professional practice (Abbott, 1988; Wilson, 1983) as a result of a process of communication with the surrounding society. Patrick Wilson (1983, p. 88) states in a related manner how professional knowledge is formed: "So whether one makes a contribution to knowledge depends not only on what one does but what others think of the group within which one works."

Perceiving of professional knowledge as constructed through linguistically communicated processes of negotiation (Sundin & Johannisson, 2005a, 2005b) – as is done here –, makes it necessary to consider the actual communication of professional knowledge as a means of gaining legitimacy for an extended expert role. The sociologist Valérie Fournier (2000, p. 73) expresses a similar post-structuralist position with the following words: "Professions may thus better be seen in terms of the labour of division than as an outcome of the division of labour; they are not the technical outcomes of the intellectual division of labour but are constituted and maintained through processes of isolation and boundary construction." Thus, professional knowledge is not seen as a stable and fixed essence, but as socially constructed and contingent. In the present article these negotiations are observed in the forum provided by web-based tutorials for the mediation of information literacy.

Furthermore, since the mediation of professional knowledge on the web enables the profession to specify and, most importantly, to prioritise and emphasise the very 'problems' that it aims to solve (Fournier, 2000, p. 82f), the university libraries' web-based tutorials potentially also contribute to redefining the profession's formal knowledge as well as demarcating it anew with regard to its surroundings. The 'problem' in relation to which this re-creation takes place here is information literacy. In the following, it is briefly outlined how information literacy has hitherto been dealt with in LIS research.

A new emerging framework on information literacy

The information literacy literature has repeatedly been criticised for its focus on lists of generic skills that the individual should master in order to be considered information literate (e.g. Grafstein, 2002; Kapitzke, 2003; Mutch, 1997; Talja, 2005; Tuominen, Savolainen & Talja, 2005; Webber & Johnston, 2000). For example, Webber and Johnston (2000, p. 384) identify this tendency as "the list approach" to information literacy and Tuominen, Savolainen and Talja (2005, p. 333) describe the same phenomenon as "the generic skills approach". According to this list and/or generic skills approach, it is possible to evaluate a person's information literacy against clearly defined standards. One example of such an approach is provided by Christina Doyle (1994). She defines an information literate person on the basis of a number of individual attributes and concludes that "[i]nformation literacy is a thematic synthesis of the skills that individuals will need to live in the Information Age" (Doyle, 1994, p. 2).

Despite the amount of publications that exist on the subject, there is no consensus on how to define the concept of information literacy and often both 'skills' as well as 'understanding'

are incorporated . For example, Albert Boekhorst (2003) identifies three overarching concepts, which, to different extents, form part of the information literacy concept: an ICT and information source, and an information process concept. Other definitions try to account for an understanding of how information can be *used.* For instance, Christine Bruce (1997) attempts, in her relational model, to broaden the understanding of information literacy to include collective competence and responsibility in relation to the world around. Shifting the perspective for the study of information literacy from that of the librarian or researcher to that of the user also enables her to demonstrate the potential of phenomenography (comp. Limberg, 1999). Bruce identifies seven aspects of information literacy which she uses in her analysis of existing user education, including user education on the web (Bruce, 1997, p. 167f.).[2]

Carol Kuhlthau (e.g. 2004) combines an interest in the pedagogical aspects of LIS with research in the field of information seeking – an interfoliation which has so far been uncommon. One of her many contributions to both information seeking and information literacy research, is the way in which she considers the importance of emotional aspects. Kuhlthau starts from a person's creation of meaning and she emphasises the dichotomy between uncertainty and control as being the fundamental principle which underlies information seeking and hence also user education. Following Kuhlthau, individual users have to be able to master the uncertainty inherent in the information seeking process. Kuhlthau (1987) also differentiates between three approaches to user education: *the source*, *the pathfinder*, and *the process* approach. Drawing on constructivist pedagogical and cognitive learning theory the process approach is the one favoured by Kuhlthau. Her categorisation is furthermore influenced by Harold Tuckett's and Carla Stoffle's (1984)

[2] Earlier studies of university libraries' web-based user education have usually been carried out on the basis of measuring usability and effectiveness of such education (e.g. Orme, 2004). These aspects are not considered in the present article.

classification of user education in research libraries, which equally distinguishes between three approaches, namely *a reference-tool, a conceptual framework,* and *a theory-based approach*. Today, research on pedagogical aspects of information seeking and information literacy research is to a large degree dominated by constructivist approaches (Loertscher & Wools, 2002; Tuominen, Talja & Savolainen, 2005; Virkus, 2003), partly due to the strong influence of Kuhlthau's work.

Yet, the above-mentioned theoretical perspectives and approaches to information literacy do not sufficiently treat information seeking as social practices and therefore, from the perspective of the present article, need to be complemented. Such a complementary theoretical framework has, so far, found only marginal consideration within information seeking research, and in particular within research on information literacy. One feature of this broadly defined framework is the interest in how information is given meaning, evaluated, and used within different social practices instead of seeing information as mirroring the 'world' (Sundin & Johannisson, 2005a). In a related manner, Cushla Kapitzke (2003, p. 51) emphasises that "the 'information process' as it is currently understood /…/ is devoid of any opportunity for students to examine the social context and construction of either the information 'problem' or its 'solution'". Similarly, Jack Andersen (2006) emphasises that information literacy ought to include knowledge of different genres' social functions and on how communicative structures are created within discursive collectives. By referring to Jürgen Habermas, Andersen argues that a genre supports different ways of reading and user education could contribute to decoding these genres and their social functions. Also, Michelle Holschuh Simmons (2005) uses genre theory as a way of advocating a critical information literacy that emphasises the learner as a member of a disciplinary community. She calls for a "meta-awareness of various discourse communities, which will equip them simultaneously to

learn as well as to resist and critique the established genres" (Holschuh Simmons, 2005, p. 302).

Likewise, Christine Pawley (2003) discusses the way in which library practices tend to decontextualise information. She points out that user education offers possibilities for recontextualising information within the social practices in which it occurs and functions. James Marcum (2002), who takes a critical stance on earlier information literacy research, puts equally strong emphasis on the social aspects of information literacy. He relates socially oriented learning theories to information literacy and argues that information seeking and learning are primarily social processes. Christine Bruce (1999) claims, along similar lines, that the writings on information literacy rarely embed information literacy in the practices, within which the user acts. Furthermore, David Bawden (2001), in a review of different literacy concepts, argues that information literacy must be related to other contemporary literacies, primarily to digital literacy. Another related and frequently discussed literacy concept is IT literacy, which Sanna Talja (2005) has studied from a social constructionist perspective. In a theoretically related article Tuominen, Savolainen and Talja (2005) employ a social constructionist approach that focuses on the relation between knowledge formation, workplace learning, and information technology and which defines information literacy as a socio-technical practice. Tuominen, Savolainen and Talja demonstrate the importance of studying the interaction between individuals as well as between individuals, practices, and artefacts.

Thus, a new theoretical framework is emerging which considers information literacy as well as information seeking as embedded in other social practices. However, so far the application

of this framework has been limited in empirical studies. The next section outlines the research design of the empirical investigation presented here.

Research design

The empirical focus in this article is on university libraries' web-based tutorials for information literacy. The empirical material for the study consists of 31 Scandinavian web-based tutorials for information literacy that were available between August and October 2004 via the websites of university libraries in Sweden (20), Denmark (6), Norway (4) and Finland (1). The selected tutorials combine texts, sounds, animations, illustrations, as well as video sequences, united by graphical interfaces. The tutorials are designed in order to prepare users for future information seeking rather than with concrete problem-solving in mind. Many of the investigated tutorials are geared towards functioning together with traditional user education. It should be emphasised that these tutorials comprise only a minor part of the collection of university libraries' user education. The types of web-based tutorials studied here can be understood to represent a specific genre emerging from the social practices enacted at the institution of the university library. The genre concept foregrounds the practice of information literacy mediation as something carried out in a specific genre which prescribes a particular form, content, and context (Yates & Orlikowski, 1992). In this article focus lies on content and context. The concept of genre can be claimed, to some extent, to govern both producers as well as users.

In order to encompass different styles, the study includes a large number of tutorials, yet it was not the intention to be exhaustive. The identification and selection of the tutorials to be included was achieved through a 'snow-ball' method, i.e. professional contacts as well as pointers from link collections were followed. The target audience of the majority of tutorials

are undergraduate students, while a smaller number is specifically aimed at postgraduates. Half are of a general nature and subject independent and half are subject specific. Since in terms of educational and university library activities a close proximity exists between the Scandinavian countries the geographical limitation to those countries seems justified. Interestingly however, at the same time, a number of tutorials refer to the influence of specific US tutorials, for instance *TiLT* [Texas Information Literacy Tutorial].

In the first phase of the analysis each tutorial was investigated individually. Subsequently, through a "close-reading" of each tutorial, different content-based themes emerged. Examples of themes include "information sources", "information needs and emotional aspects" and "search technique". The similarities and differences within each theme formed the basis for the next phase of the analysis. These similarities and differences were then studied as linguistic expressions of different approaches to information literacy. Four approaches were identified and they emerged as constructions from the interplay between the chosen theoretical framework and the empirical data. These are seen to convey different versions of librarians' information seeking expertise. Each tutorial was studied online and, where possible, also in paper format.

The analysis centres on variations and patterns in the contents of the tutorials. It does not focus on the individual tutorials as such. Put differently, the individual approaches should not be seen as self-contained models, which form the basis for the tutorials. Rather, they need to be understood as complementary and at times as conflicting. Subsequently, the approaches are perhaps best thought of in terms of different discourses that include contested concepts in LIS practices, such as 'information', 'information seeking' and the 'user'. Each approach is

illustrated by a number of typical quotations. These quotations as well as the names of the tutorials have been translated from their original languages into English by the author.

Four approaches to information literacy

The analysis revealed four recurrent approaches to information literacy: *a source approach*, *a behavioural approach*, *a process approach* and *a communication approach*. These are introduced and discussed in detail below.

A source approach

In this approach to information literacy emphasis is on the information as such. This means interest is primarily focused on presenting different types or genres of primary, secondary and tertiary sources. It has always been an ideal for librarians to know their libraries and their collections, including bibliographies and different types of indexes. However, in the face of increased digitisation, the physical primary sources available at the local library have begun to loose in significance. Still, in the source approach the physical information sources are present. This is evident in the example from one tutorial, where the following sub-titles for primary resources are used:

- Books
- Journals
- Conference proceedings
- Research reports
- Theses
- Standards
- Patents

- Statistics
- Newspapers
- Laws and regulations
- Official publications

(*Seeking Information*)

It is obvious in this extract, that it is the very genres that libraries are most familiar with which are in focus. Furthermore, examples are provided of different sources and their content and use are described. General introductions are commonly given to widely used secondary sources, for instance the university library or the union catalogue.

Guidance to information sources is an example of the librarian's traditional expertise that is still assigned great weight. However, in the empirical material brief descriptions of the information sources are typical. Only few examples could be made out in which specific sources are critically analysed with regard to their content, the context in which they were created, or the social practices in which they are supposed to be used. Put differently, the sources' *cognitive authority* is not considered (e.g. Wilson, 1983). A shortcoming which might have to do with the fact that the tutorials often are of a very general nature and rarely consider information sources specific to certain disciplines.

One exception to this rule is the recurrence of a pervasive cautionary tone, which surfaces as soon as internet resources are introduced:

> Is it really necessary to devote a whole 1 credit course to information seeking and even make it obligatory for some? It is so easy to find what you need on the

> Internet! Yes, of course it is easy to find information on the Internet but paradoxically, that is part of the library's dilemma and the reason why the course is needed, despite everything. The amount of information on the web does not mean that it has become easier to find the right kind of information, that which is trustworthy and relevant – just the opposite, these qualities were easier to find in the little library where each book was chosen and evaluated with care. (*From Question to Document in the E-Library*)

In this extract the librarian is indirectly described as the person who owns the power to choose the "right" information. It is emphasised that the librarian's information seeking expertise has become even more important with respect to "the amount of information on the internet". It is interesting to observe how the internet tends to be treated as seperate from other sources – be they primary, secondary, or tertiary –, and how the cautionary tone, in which it is often described, seems to be more protective of librarians' traditional tools than actually critically reflective. Furthermore, it is not uncommon for tutorials to contain a discussion aimed at justifying their own existence in the face of the web and in particular of *Google*.

The following quotation, presenting a librarian's perspective on the 'unstable' character of web documents, is illustrative of this tendency:

> The weakness is that anybody can publish information and documents on the Web. In the same way as material that has not been the subject of a thorough editorial evaluation it requires an extra and thorough critical evaluation of its qualitative depth, for example, through a set of criteria designed to test the quality of Internet documents. (*Godin: Guidance to Good Information Seeking*)

Moreover, secondary information sources are often presented through genres. In one of the tutorials the following headlines are used for secondary sources (in the tutorial called “Tools for information seeking”):

- Encyclopaedias and handbooks
- Bibliographies and bibliographical databases
- Citation databases and reference lists
- Library catalogues
- Research reviews
- Information seeking on Internet

(*Seeking Information*)

The fact that “Information Seeking on the Internet” is presented as one of the genres can be interpreted as indicative of the particular way in which the internet and with it web-based documents are routinely singled out and given special consideration. The headlines above are also hyperlinks to pages, which contain information on each genre together with links to external secondary sources. Certainly, information sources are examined critically. Yet, this is done in the form of general guidelines and recommendations and not by evaluating particular sources. Information is then treated as decontextualised, without considering the social practices, which surround its creation and give it meaning when it is used.

A wide range of applications of secondary and tertiary sources is often described in the tutorials. Yet, a critical stance is taken only in a few cases on issues such as ranking mechanisms or database content and coverage during information seeking. Likewise, while

the legitimacy of secondary sources within different knowledge domains is rarely addressed, the structure of these sources – for example, the fields in database records and their potential use for information retrieval – is discussed routinely.

A behavioural approach

As in the source approach, the emphasis is also on information sources in the behavioural approach to information literacy. Yet it is based on different premises and with a different outcome in mind. In the behavioural approach the intention is to provide the user with a kind of model for how information seeking should be carried out and with the aid of which the user can tackle future information seeking. An example of how the behavioural approach manifests itself in the tutorials is the frequent encouragement to the reader to initiate information seeking by consulting an encyclopaedia, in order to acquaint him/herself with the subject. Only when this has been accomplished is the user allowed to move on to other tools:

> It is usually a good idea to start your search by looking up concepts and definitions in a lexicon or an encyclopaedia. (*Pedagogical Guide*)

The behavioural approach is typified by encouraging users to use their own library's resources first, before moving on to databases and other bibliographic tools. It is described how and in which order the information sources should be used. As a consequence, the library's own catalogue is often introduced early on in the tutorials, while the internet is introduced, as a rule, in the last modules. This often indicates the prevalence of an administrative perspective which has the library's own collection as its starting point.

The behavioural approach is furthermore exemplified in the amount of space that is allocated to the detailed outlining of search techniques. Users are provided with step by step guides that take them through sequences of computerised information searching, with the intention to enable them to repeat these trained sequences later in other situations. This technique is repeated in almost every tutorial and can therefore be described as an assumed core skill. Information seeking in databases is seen as a more or less narrowly defined technique which includes for instance, the choosing of keywords, Boolean operators, truncation, proximity operators, phrase search, keyword search, and relevance evaluations. The following is an example describing the selection of keywords for a search:

> Before you start searching for information you ought to think through what it is you need. You need to select central keywords and phrases that describe your topic. If you already happen to know of a good article, book or other source you can look it up in a database and see how it is indexed and then make use of the same terms in your search. (*Hankens' Courses in Information Seeking*)

Usually a mechanical view of information seeking dominates the different steps, which is perhaps most clearly expressed in the treatment of relevance. Information is here presented as both without subject and context, something that you can have too much or too little of. Information becomes thereby primarily a question of a tangible quantity:

> Information seeking is enacted between the two poles of **expand** and **contract**. This applies whether you are searching a database or via the Internet. If you

> don’t get any hits, you have to expand your search. Too many, and you have to narrow your search. (*Guide to Information Seeking*)

Here, in other words, we find a case of a system-oriented discussion where judgements of relevance are made against a background of *precision* and *recall.* This discussion of relevance can be found primarily in relation to instructions for information seeking in bibliographical databases, but also when information seeking on the web is discussed:

> There are lots of ways to find material on the Internet. The problem is usually that you get too much “noise”; that is, too many irrelevant hits. (*Information Seeking Driving Licence*)

The system-oriented discussion of relevance, as illustrated in these two quotations, predicts that precision is likely to decrease if the total number of hits increases and as the so-called “noise” is expected to increase. Inversely, the likelihood of high precision increases if the user can allow himself/herself to accept a lower degree of recall. From this it follows that hits either are relevant or not relevant and that relevance can be calculated by an equation. The concept of relevance, as it is used in the tutorials, is echoed by a conduit metaphor.

The behavioural approach pays considerable attention to the practical skills of information seeking seen in relation to the ICT that provides users with increasing access to databases. This picture is reinforced by the recurrent tests based on a behavioural ‘multiple choice’ principle through which students are expected to exercise their skills:

5. If you are searching for an organisation that you know the name of, which search method should you use?

a) Truncation
b) Phrase searching
c) Boolean operator AND
d) Boolean operator OR

(*The Polecat*)

The quotation illustrates how information literacy is tested as a subject independent and technically oriented information seeking skill that may be contrasted with a more context or subject dependent approach.

The behavioural approach is in part close to what Kuhlthau (1987) calls a pathfinder approach and what Tucket and Stoffle (1984) term a conceptual framework approach. According to Kuhlthau's description, the pathfinder approach is tied to a specific subject, a kind of 'pattern or example seeking' and it is therefore not applicable in other situations. In this article the behavioural approach is, in contrast, seen as a subject independent approach that illustrates the relation between the library's different sources and how the user ought to navigate between them, in order to demonstrate a 'proper behaviour'. A behavioural approach is clearly visible in almost all of the tutorials.

A process approach

In the process approach to information literacy the overall focus shifts from information as such to the user and the different aspects of information seeking are presented in chronological order. It typically starts out by introducing problem formulation and

information needs, which is usually followed by a presentation of the different elements of search techniques and source evaluations, and occasionally even includes the writing-up process. This is exemplified in the following extract that describes the first phase of the information seeking process:

> First, you have to formulate a research problem. With this accomplished you will also have defined concepts. Defined concepts are an important tool in preliminary information seeking. What you do now is to investigate:
>
> - The formal limitations of the project
> - The thematic framework
> - The scope of the project
> - The time at your disposal
> - The specific content requirements
>
> (*Information Literacy: Good Information Seeking for Essay Writing*)

Behind this approach lies a pedagogical framework based on constructivism and cognitive oriented learning theory. Hence, it is not the actual behaviour that is treated but rather how the user should think about this behaviour; the user should understand the information seeking process. To become information literate is thereby, partly, a question of becoming aware of the different elements of the process. The importance of instructing the user to reflect on his/her information need is the next step in the information seeking process:

> What type of information do I need? – What type of source contains the information I need? (*Information Literacy: Self-Studies on the Web*)

The process of information seeking delineated here is often described as static. Yet at the same time, the dynamic character of information seeking is often accentuated. Static insofar as the process is portrayed as essentially unproblematic and linear, while the more dynamic aspects are reserved for depicting the user's uncertainty while moving back and forth between the procedure's different steps and phases. Directly related to the powerful influence of Carol Kuhlthau – interestingly the only LIS researcher mentioned by name in the material analysed – some tutorials explicitly consider the role of affective factors.

The starting point in the process approach lies in the individual's common sense based information seeking, even if affective aspects are sometimes considered:

> We have noticed that many students become frustrated at the beginning of a search. They either find too much or too little. This is a part of the first phase, just when you are considering what to write about and trying to find literature, before your research question is focused and you have found the right terms to use, it is confusing. (*From Question to Document in the E-Library*)

Another example of how tutorials are built on a process approach is given here:

> The final phase – when you have the material you need, writing is under way and you approach the end of the creative writing process. Here you probably feel satisfaction, relief and pride that you have carried out an advanced piece of work. (*Guide to Information Seeking*)

These two extracts illustrate two different phases in the information seeking process, including affective aspects that derive from the uncertainty principle (Kuhlthau, 2004).

Among those tutorials that explicitly try to incorporate the affective aspects of the information seeking process, two make use of a narrative strategy and develop a story involving several characters. One (*SWIM*) contains an interactive, video based role-play with three characters. The user is invited to follow the characters over five modules which correspond to Kuhlthau's five stages in the information seeking process. Each of the three characters is ascribed a specific learning style that governs his/her activities. The second tutorial (*Advices and Tips*) that employs a narrative strategy does this also in the form of a role-play. Here it is an animated cartoon covering five stages in a student project.

In the case of the process approach the librarian's information seeking expertise is based on knowledge of the users' thoughts and feelings during information seeking, and the pedagogical role consists of mediating this knowledge to the users. As it emerged from the empirical material, in this approach information seeking is treated as a part of a more or less instrumental and task-based problem-solving process. Accordingly, neither the symbolic potential of information nor leisure-related information seeking are afforded any attention. Likewise, neither subject nor contexts of information seeking are considered to be of particular importance.

A communication approach

The communication approach to information literacy focuses on the social and relational aspects of information seeking practices. It challenges the portrayal of information seeking as an individual process. In contrast to the process approach, information seeking is here

understood as social practices imbedded in other social practices which occur in institutional contexts. Among the issues that the communication approach foregrounds are the importance of interaction between users in information seeking, the relation between cognitive authority and source evaluation, and the significance of social navigation.

This approach can be identified when presentations consider the communicative validity of information, as for example in the following excerpt:

> The author's background is one of the more obvious criteria through which the value of a text can be judged. It tells us something about the author's specialization within his/her discipline. However, it is not always an indication of quality that the writer has a Ph.D. – or the reverse.
>
> - What is the author's background?
> - Is he/she a highly educated expert in the area or a layman?
>
> (i.e. a professor in English does not necessarily know more about environment issues than anyone else).
> - Has the author written on the subject earlier and how has this been received by colleagues?
>
> (*Information Literacy: Good Information Seeking for Essay Writing*)

In this extract, as in several of the other criteria for the evaluation of sources, guidelines for judging the cognitive authority of documents are recurrent. This is a kind of communicative based validity where the importance given to the information and the author within a particular community constitutes evidence of high validity. In particular, this highlights that the meaning of information is shaped in a dialogue between actors in a specific social

practice. Thus, the emphasis is neither on information itself nor on a person's subjective construction of meaning, rather what comes into focus is participation in communities.

This is exemplified in how one tutorial presents environmental scanning:

> An important part of environmental scanning is to create a network of social relations and contacts. Colleagues within the same profession in other workplaces are natural members of your network. Networks allow you to interact with your contacts and colleagues. You know something that you can share with others and they know things of value to you. Coffee breaks, conferences and field studies are good examples of ways to develop your network. Remember that you can't know everything but together with others you can find answers to problems you are currently dealing with. (*Information Seeking Driving License*)

This excerpt is taken from a subject-specific tutorial for student nurses. Discussions on the use of search engines to find web pages linking to a particular site also fall in this category. In both instances a person's social navigation is central. Users are encouraged to draw on the searching behaviour of others and to use it as starting points for their own searches.

The following quotation is another illustrative example. It is taken from a tutorial describing chain searching and contains recommendations concerning ways of benefiting from scholars' reference practice:

> Searching references or chain-searching is an attempt to label a method that many researchers, consciously or unconsciously, use. They start their search in a reference list to a good article or book. The books in the reference list are acquired and then their reference lists are examined. The idea is that the references used by the author are relevant to those that are interested in the area. (*General Guide to Information Seeking*)

It is common to discuss the principles of chain searching whilst introducing citation databases. Also in this quotation information seeking is 'instrumental'. Yet, here this instrumentality is not related to a single person and a very specific, narrowly defined task, but rather it is socially derived from the community within which the user acts.

In a communication approach the librarian's information seeking expertise consists of an awareness of the importance of understanding the sociocultural conditions for the production, mediation and consumption of information. This includes a critical understanding of the social origins and contingencies of information sources, of their importance in different practices, and of the ways in which they contribute to conveying values and perspectives. This can be exemplified by a quotation about the ranking mechanisms of search engines on the web:

> Certain search engines will rank web pages highly for paying customers (*Search, Collect, Write*)

However, examples such as the above are rare in the empirical material on which this article is based.

What emerges as an important and fruitful undertaking for librarians in the communication approach is to convey to the users an understanding of how information and information seeking acquire meaning. Thus, in the communication approach librarians' expertise poses a challenge to the textbook view of how problem-solving and information seeking related to research should be carried out, where the latter still predominates in LIS. This textbook view sees information seeking as a rational and systematic process, much the same across different disciplines and in different contexts.

A consequence of the communication approach is an increasing interest in communication and interaction in different communities of users and in the role of information and information seeking practices in shaping them. With the words of Christine Pawley, such an approach requires a "/…/sophisticated theoretical understanding, and access to, if not membership of, a relevant interpretive community" (Pawley, 2003, s. 441). It has to be remembered, though, that many of the investigated tutorials are geared towards functioning together with the more traditional user education. Compared to the other three approaches, the communication approach is least visible in the tutorials.

Information literacy and information seeking

The four different types of librarians' information seeking expertise as mediated through different approaches to web-based tutorials for information literacy can be taken to provide a backdrop for an illustration of the two issues that were introduced at the outset, i.e. the possibility of separating information or information seeking practices from the subject and/or context of information and the appropriateness of a starting point, which privileges the information source and its different formats itself rather than one that lies with the user. The

illustration (see below) has a transverse dimension, information – user; and a longitudinal dimension, subject/context dependent – subject/context independent. On the subject/context independent side process and the behavioural approaches are situated, while source and communication approaches are located on the subject/content dependent side.

Furthermore, behavioural and source approaches which both, albeit in different ways, take the information itself as starting points, are located in the information dimension. In contrast, communication and process approaches start from the users and are thus positioned in the user dimension. Yet, while the communication approach focuses on interaction between individuals, the process approach concentrates on individual users. Since in the empirical material investigated, information sources are usually treated in a very general and unspecific manner, the position of the source approach in the illustration should, above all, be considered as being theoretically grounded in a sociocultural perspective.

Take in figure 1

Figure 1. An illustration of four approaches to information literacy.

Historically, each of the four approaches has dominated the literature at different times (comp. Kuhlthau, 1987; Tucket & Stoffle, 1984). Although it is possible to identify different trends in the literature, it is important to note that the approaches are even more blurred in the actual practice of user education. Librarians have had a long tradition of being experts on the material of the library and of guiding users on the trustworthiness and appropriateness of different books, articles, and other information artefacts in relation to different situations. This important expertise is difficult to appraise when users are less and less limited to a particular

library and its physical collections. To be an expert in specific sources was challenged and, instead, pedagogical interest moved from particular information artefacts towards shaping user behaviour. This shift can be related to the explosive growth of teaching techniques that occurred during the 1960s and 1970s, and which is reflected in the many textbooks in various disciplines, built on behaviourist principles of positive reinforcement and filled with drills. During the 1990s ICT supported information seeking developed into a possibility for almost everyone. Information seeking behaviour was identified as a generic and individual skill or as a primarily a technical practice through the behavioural approach, and user education became permeated by technical jargon. This is reflected in the recurrent use of a specific professional vocabulary, in particular for search techniques and databases. The use of such terminology can be interpreted as illustrative of the upholding of hierarchical relations between a knowledgeable expert and an uninformed user (comp. Stover, 2004). Instead of being the experts on books and other information sources, the librarian's technical expertise in searching came into focus.

The 1980s and early 1990s was the era when the literature turned towards the study of information seeking processes from the perspective of the user. Researchers called for a shift of paradigms, from a system-oriented paradigm to a user oriented one (e.g. Dervin & Nilan 1986; Wilson, 1981). Within user education, Kuhlthau's (e.g. 2004) influence cannot be underestimated. Situated within a cognitive and a constructivist tradition, she draws, for example, on the work of Jerome Bruner and George Kelly, who studied individual learning processes from the perspective of cognitive theory building. Within user studies in LIS, constructivist influenced research is founded on the idea that the focus should be on understanding how users create knowledge or meaning through information seeking. This is in contrast to research inspired by behaviourist conceptions, which is preoccupied with

people's actual information seeking behaviour. Furthermore, Kuhlthau (2004) bases her research on the work of Robert S. Taylor and Nicholas Belkin. Both are researchers within a cognitive-oriented tradition in LIS, who advance an understanding of information seeking as being in large parts general and generalisable. Despite the effort of understanding the information seeking process from the user's perspective it is moreover possible, in the process approach, to make out attempts to uphold the hierarchical relation between an expert and an uninformed user. For example, the ability to diagnose users' information needs concerning information systems is here seen as one of the constitutive elements of a librarian's information seeking expertise. Kimmo Tuominen (1997, p.362) comments on this user oriented discourse as follows: "/.../ librarians could enhance their status to be comparable to the high social and economic positions of the so called recognised expert profession".

In the course of the 1990s constructivist information seeking research was faced with growing criticism from several quarters. Specifically from a social constructionist perspective, the idea of the individual's autonomous position was challenged (e.g. Talja, Tuominen & Savolainen, 2005; Sundin & Johannisson, 2005b). Some information seeking research has turned towards a view that information seeking is seldom a completely rational, common sense based, individual practice that is carried out systematically and logically. Instead, among other issues, the question of how the relevance of information artefacts is negotiated in relation to its usability together with the question of how information seeking practices are shaped in different social practices have come to the fore. Information artefacts are thus not a neutral tool for representation and information seeking is consequently not a purely individual process. The communication approach relates to a pedagogic theory that has gained increased recognition in recent years, namely a sociocultural perspective (e.g. Alexandersson & Limberg, 2003; Sundin & Johannisson, 2005a; Talja, 2005). The expertise held by librarians

becomes in the communication approach a relational understanding between the librarian and the user, seen as members of different communities, where both agents have to learn from each other (comp. Stover, 2004).

Concluding remarks

The present article considers tutorials for information literacy as a forum for the expression, negotiation, and examination of different types of librarians' information seeking expertise. The library has always been an arena for knowledge building and learning, but recently awareness of the significance of librarian's pedagogical role has increased. Accordingly, in addition to their pedagogical potential the web-based tutorials for user education that have been analysed can also be perceived as visible expressions of different, partly opposing, professional claims of expertise. This article illuminates these alternative claims of expertise together with some of their practical and theoretical implications for the field of information literacy.

In order for someone to seek professional help, the expertise claimed by the professional also needs to be recognised by others (e.g. Abbott, 1988; Wilson, 1983). Professions are always in a state of flux through negotiations with others about the limits of their own expertise in relation to other professions. One way of pursuing this negotiation is by communication, for instance by publicising a profession's expertise on the web (Fournier, 2000). With the help of web-based user education librarians can mediate their expertise to others, outside the field of librarianship. At the same time, it is important to note that professions include different and at times conflicting values, norms and also expectations of their own expertise and that they are by no means homogeneous (Sundin, 2003). The claims for professional expertise should not be seen as absolute, but rather they are a result of more or less active choices.

The different approaches to information literacy that are revealed in this article have been termed a source approach, a behavioural approach, a process approach and a communication approach. These approaches entail different versions of librarians' information seeking expertise and thus, different ways of defining central conceptions such as information, information seeking and user. Accordingly, one of this investigation's underlying assumptions has been that the approaches have implications for user education. Furthermore, the approaches co-exist in the practice of user education despite the theoretical inconsistencies established above; it is not uncommon to find them side by side in individual tutorials.

While the illustration, presented above, visualising the four approaches is grounded in the empirical material, a theoretical discussion supplements and illuminates it. The descriptions of the approaches also consider what is *not* represented in the tutorials. In this way a constructive discussion is articulated about the practice of user education. One dividing line is between tutorials that take their starting point in the information or in how the user should behave in relation to it, and those who take their starting point in the individual or groups of individuals. In the latter, it is a case of preparing the individual for what awaits them as seekers, compilers and evaluators of information. The other, and perhaps the more interesting, dividing line is between tutorials that choose to connect user education to a subject or context and those that attempt to present it as domain independent. The question that should be asked is whether it is fruitful to mediate information literacy if the information at issue is decontextualised. Or should user education rather devote itself to re-contextualising information within its original practice which can be achieved with a focus on the information itself and with a focus on the user?

The emerging new theoretical framework of information literacy, introduced earlier, emphasises the importance of treating information literacy as embedded in social practices. Such a theoretical framework necessarily answers the above question affirmatively. Information literacy practices are important for both LIS research and librarianship, but we need to consider and understand those practices and contexts in which people lead their lives.

Tutorials[3]

Advices and Tips

[Advice and tips was first made available in 2005 and quotations cited come from the official version although I did have access to a number of test versions in 2004]

Library, Library, Høgskolen i Telemark & Høgskolen Stord/Haugesund, Biblioteket (HSH)

Retrieved February 1, 2005, from http://vink.hit.no/.

From Question to Document in the E-Library[4]

Luleå University Library

Retrieved September 14, 2004, from http://www.ltu.se/depts/lib/introkurs/index.shtml.

General Guide to Information Seeking

Stockholm University Library

Retrieved September 3, 2004, from http://www.sub.su.se/sok/guider/allguid/1intro/introduktion.htm.

Godin: Guidance in Good Information Seeking

Roskilde University Library

Retrieved August 12, 2004, from http://www.rub.ruc.dk/godin_vejl/.

[3] Only those tutorials that have been quoted in the article are listed here. For a complete list, see Sundin (2005b).
[4] A password is necessary to access the tutorial.

Guide to Information Seeking

The Library, University College of Physical Education and Sports

Retrieved September 1, 2004, from http://www.ihs.se/Biblioteket/sokguide/Index.htm.

Hanken's Courses in Information Seeking

Hanken's Library. The Swedish School of Economics

Retrieved August 27, 2004, from http://www.shh.fi/services/biblio/tjanster/portal/undervisning.htm.

Information Literacy: Good Information Seeking for Essay Writing

Bergen University Library

Retrieved August 19, 2004, from http://www.ub.uib.no/felles/IK/.

Information Literacy: Self-Studies on the Web

Lund University Libraries

Retrieved August 24, 2004, from http://www.lub.lu.se/ub/distans/infokompetens/.

Information Seeking Driving Licence[5]

University Library, Karolinska Institutet

Retrieved October 10, 2004, from http://kib.ki.se/edu/ped_resurs/webbquest/korkort/.

Pedagogical Guide

Library, Malmö University

Retrieved September 14, 2004, from http://www.pedagogguiden.se.

The Polecat

Library Direction, Lund University

Retrieved August 10, 2004, from http://www.lub.lu.se/illern/.

Search, Collect, Write

[5] A password is necessary to access the tutorial.

SLU Libraries

Retrieved September 3, 2004, from http://www.bib.slu.se/kurser/sss-proj/index.html.

Seeking Information

Uppsala University Library

Retrieved September 3, 2004, from http://w3.ub.uu.se/kurs/tutorial/start.cfm.

SWIM

Aalborgs University Library

http://www.aub.auc.dk/portal/js_pane/forside/article/128.

CD-ROM received October 2004

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