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Pedagogical Considerations in Developing an Online Tutorial in Information Literacy

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ABSTRACT

The article discusses the pedagogical background on which the design of the online tutorial Søk & Skriv ('Search and Write') is based. The tutorial Søk & Skriv is specially designed for distance learning students, but can also be used by students on campus. Søk & Skriv aims at increasing students' information and digital literacy with the ultimate goal of empowering them to gradually become legitimate members of the academic community, as well as lifelong learners. Further, the tutorial sets out to make a contribution to the pedagogical development of user education at the academic library. The article shows how a general didactical model, namely the didactical relationship model (Hiim & Hippe, 1998), has been applied to enrich information literacy education practice, and in this case specifically, to enrich the design of online education.

INTRODUCTION

This article discusses the pedagogical background on which the design of the online tutorial Søk & Skriv ("Search & Write")[1] is based. Søk & Skriv aims at increasing students' information and digital literacy. In this way, Søk & Skriv seeks to support students in the process of becoming legitimate members of the academic community and lifelong learners.

The tutorial is designed for distance learning students. Its goal is to make a contribution to pedagogy in the academic library by highlighting user education in digital and information literacy.

THE DIDACTIC RELATION MODEL

The didactic relation model, originally developed by Norwegian educational researchers Bjørndal and Lieberg (1978), has proven to be well suited for planning education in the Norwegian context (Engelsen, 2006). The didactic relation model is intended to be a tool for planning and reflection; it helps educators use reflection as much as possible in analysing their planning, teaching, and evaluating activities. In the didactic relation model, the educator describes and reflects on the key factors that make up a teaching situation, and on the ways these factors interrelate. Applied to library user education, this model empowers the information professional's practice, as it provides a framework to plan education and its evaluation (Torras & Sætre, 2009). The model increases information professionals' awareness and understanding of their teaching practices.

The model describes a number of factors that interact to define a teaching/learning situation. Hiim and Hippe (1998) build upon Bjørndal and Lieberg's (1978) model and distinguish the following didactic categories: learning goals, content, learning process, learning conditions, settings, and assessment.[2]

FIGURE 1 — SØK & SKRIV HOMEPAGE

FIGURE 2 — THE DIDACTIC RELATION MODEL
(HIIM & HIPPE, 1998, P.103, THE AUTHORS' TRANSLATION)
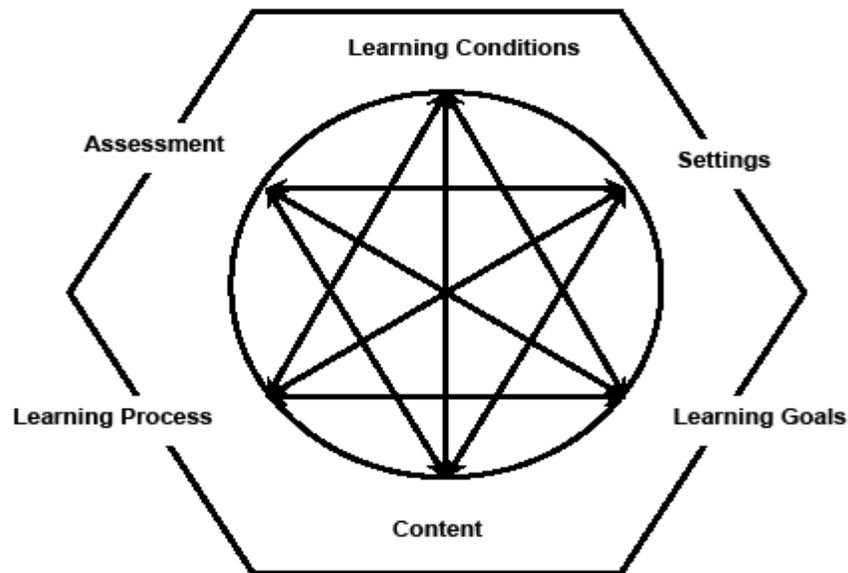
As Figure 2 illustrates, all of the categories are interrelated and can interact in different ways. The model clearly shows that the choice within one category influences the choices within the other categories. However, when in use, the model should be put into a contextual frame; for instance, the syllabus of the subject in which a specific information literacy course is integrated.

Information professionals at the academic libraries in Bergen have found that the didactic relation model is a fruitful one for planning information literacy courses (Torras & Sætre, 2009). It has also been very useful in the library's collaboration with faculty to incorporate information literacy education in the curriculum. Because of the positive experience with the didactic relation model for planning face-to-face user education, it was also used to develop the online tutorial. The didactic categories were decisive in the design of Søk & Skriv. Its form and content have been conditioned by the libraries' views on learning and teaching information literacy, and have also been influenced by lessons learned from previous teaching experience at the library. In

what follows, each of these conditioning factors is discussed based on Hiim and Hippe's categorization.

LEARNING GOALS

According to Hiim and Hippe (1998), learning goals are what the educator wants students to be able to accomplish. In terms of user education, the library long-term learning goal is for students to become information-literate and digitally literate. Information literacy allows users to decide when and why they need information; where to find it; and how to evaluate, use and communicate it in an ethical manner (Armstrong, 2005).

Information literacy, together with ICT skills, constitutes digital literacy (Torras & Skagen, 2006). Digital literacy has become a key literacy due to increasing digital access to information. At the development stage of the online tutorial (as in all course material design), it was essential to establish specific learning goals. To accomplish this, the concept of information literacy was divided up into components, based on the American information literacy standards

TABLE 1—INFORMATION LITERACY LEARNING GOALS FOR THE DEVELOPMENT OF SØK & SKRIV CONTENT

Information literacy components	Learning Goals	
	Undergraduate level	**Postgraduate level**

1. Formulating a research question and expressing an information need	• To choose a topic and become acquainted with formal project guidelines
	• To formulate a research question
	• To understand that information is needed to expand one's knowledge, and to support one's ideas and opinions
	• To define a specific need for information
		• To choose a topic and formulate a focused research question
		• To justify topic choice through:
		  • Placing it in the context of earlier research
		  • Considering theoretical framework and methodology
		• Assessing project feasibility

2. Choosing and accessing information sources. Locating and collecting information	• To distinguish between information sources • To judge the appropriateness and quality of sources for the task at hand • To search in different information sources with appropriate search strings • To locate and access documents	• To understand how information is quality assured in the publication process • To judge the appropriateness of the information source for the task at hand • To search in discipline-specific sources with appropriate search strings • To evaluate search results in order to decide appropriateness and relevance to the topic • To modify search strategy to ensure comprehensive information retrieval
3. Evaluating sources critically	• To understand the concept of critical evaluation of sources • To become familiar with basic evaluation criteria • To recognize the relationship between good use of sources and academic quality in own one's and others' works • To evaluate the appropriateness of relevant sources based on own academic task	• To evaluate academic works in terms of content, context and use of sources. • To master the use of evaluation criteria in a variety of sources (Web sites, academic and popular articles, books) • To be familiar with and critical of peer reviewing and impact factor as quality assurance criteria.
4. Using information in one's academic work	• To become aware of information searching as a process and its connection to the writing process in general • To use writing techniques in order to stimulate the writing and information searching process	• To become aware of information searching as a process and its connection to the writing process in the production of new discipline-specific knowledge
5. Showing academic integrity	• To understand what academic integrity is • To understand what plagiarism is and its implications • To do referencing in a correct way	• To use a reference management tool for referencing and for systematizing gathered literature • To understand issues of research ethics and copyright

(Association of College and Research Libraries, 2000; Middle States Commission on Higher Education, 2003). For each information literacy component, specific learning goals were established describing what the student should know, be aware of, or be able to do (see Table 1). Further, a distinction was made between undergraduate and postgraduate learning goals in order to reflect differences in students' academic development, achievement requirements, and information needs.

In information literacy education, the responsibility for learning is shared by the faculty, the library, and the student. For this reason, when the learning goals for each component were defined, it was important to delimit the library's allocation of responsibility. For example, in the authors' view, faculty and the student are responsible for component 4 (using information in one's academic work). However, the library can also support the student within a process-oriented approach to writing. The learning goals for component 4 in Table 1 reflect the library's focus on process-oriented writing that stimulates learning, rather than focus on the production of final texts ready for assessment (Torras & Sætre, 2009). The content in Søk & Skriv was designed in

accordance with the learning goals described for each of the information literacy components.

THE ONLINE TUTORIAL CONTENT

Course content, as defined by Hiim and Hippe (1998), is what the teaching consists of, and how one chooses and designs it. Based on the learning goals established, the tutorial was divided up into basic and advanced levels. Søk & Skriv Basic consists of a customized version of Aalborg University's freely available information literacy tutorial, Streaming Web-based Information Modules (SWIM). SWIM was chosen because, like Søk & Skriv, it builds upon a constructivist view on learning, knowledge construction, and the information searching process (Kuhlthau, 2004). Søk & Skriv Basic's learning objects "Critical Evaluation of Sources" and "Referencing and Ethics" were developed to cover learning goals related to these information literacy aspects as well.

In Søk & Skriv Advanced, the content is divided up into the five learning objects schematized in Table 2. These objects are also based upon Kuhlthau's (2004) information searching process model.

TABLE 2. SØK & SKRIV ADVANCED: LEARNING OBJECT CONTENT (ADAPTED FROM TORRAS AND SKAGEN (2006)).

Learning objects	Information search process (Kuhlthau, 2004)	Writing actions (Dysthe, Hertzberg, & Hoel, 2000)	Other actions or strategies
1. **Task initiation**	Task initiation (Stage 1) Topic selection (Stage 2)	Brainstorming Mind mapping Think texts	Reflecting on research ethics
2. **Obtain an overview**	Pre-focus exploration (Stage 3)	Annotated bibliography First outlines Project statement	
3. **Find and combine keywords**	Focus formulation (Stage 4)	Listing and structuring keywords	
4. **Search and write**	Information collection (Stage 5)	Draft writing Writing for the study group	Critical evaluation of sources Referencing
5. **Closure**	Search closure (Stage 6)	Conclusion writing Final writing up	Ethical use of sources Presenting one's work

FIGURE 3 — SØK & SKRIV ADVANCED
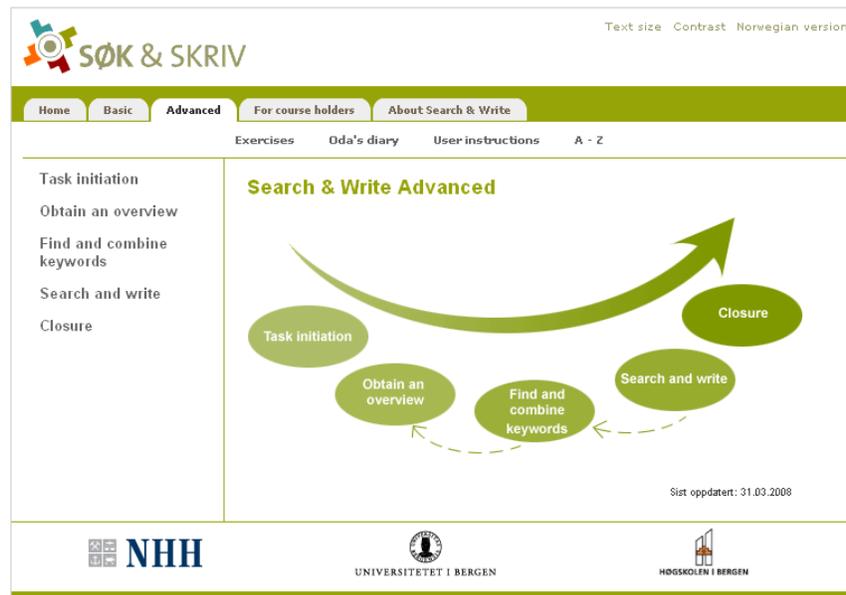
In the objects, writing and information searching are approached as processes that go hand in hand in the students' wider process of constructing meaning. Søk & Skriv Advanced also covers other essential information literacy components, such as the creative, critical, and ethical use of information.

The students' learning process has been taken into account in the design of Søk & Skriv (see "The Learning Process," below). Figure 3 shows the flexible structure of the tutorial.

Each of the learning objects represents a phase in the writing/searching process. The learning objects help students decide what kinds of strategies they might want to use and what course of action to take in each phase. Student-centered guidance is provided by relating the different process-oriented activities students engage in during their academic work and by inviting them to focus on the particular piece of academic work they are carrying out.

Each object includes activities that encourage students to produce different types of text (e.g., brainstorming, outline writing) in connection with their own thesis or research paper writing. There are also activities to help students become more aware of their information needs, and help

them find strategies to meet those needs. For example, the exercise in Figure 4 facilitates the task of preparing for one's search: the student is asked to work out keywords based on a current research question.

Søk & Skriv Advanced also includes Oda's diary (see Figure 5). Students are invited to follow character Oda, a distance education student, and her progress in writing her final research assignment in midwifery.

In her diary, Oda writes about the ups and downs she experiences in her reading and writing, her actions, and her contact with others in her learning environment. Oda's diary illustrates how the different phases of the writing and information searching processes might pan out. Its aim is to connect the content of the learning objects to a specific case (a fictitious student) with which Søk & Skriv users can identify.

Søk & Skriv seeks to promote student learning by doing and reflecting (Dewey, 1997), which lies at the heart of the constructivist view on learning. As Kuhlthau (2004) argues, information seeking is an intellectual process. It is important to make students aware of how their information needs evolve from a vague

FIGURE 4 — EXCERPT FROM AN EXERCISE IN SØK & SKRIV ADVANCED

FIGURE 5 — EXCERPT FROM ODA'S DIARY

Week 4: Queen of the Internet…that's me

Wednesday:

The librarian, Espen, didn't give me any answers, but asked a lot of questions which forced me to think about what I really was after. I'll have to take a look in the library catalogue ! I'll have to just try and see what happens. What did he say? The question mark at the end of the word means that the search will find words with alternative endings. I'll try it: pregnan? intoxic?   . This was good. Here we have literature which covers pregnant, the pregnant, pregnancy and intoxication, addiction, addict. What about the combination pregnancy? intoxic?

awareness of an information gap and culminates in their location of information that contributes to constructing meaning.

LEARNING CONDITIONS

All students and educators have previous knowledge, attitudes, and experience that condition their learning and teaching. Hiim and Hippe (1998) refer to previous knowledge, attitudes, and experience as educators' and students' teaching and learning conditions. These conditions will influence educators' planning, content, and pedagogical thinking. The main target group for Søk & Skriv is distance education students, and obtaining a general characterization of this group was useful in designing the learning objects.

Students have different reasons to take distance education courses; they might wish to acquire new knowledge or obtain formal qualifications. An important factor in choosing online education is flexibility in deciding when to start and how to progress (Tønseth, 2004). According to Ballo and Størkersen (2001), 63% of distance higher education students in Norway are women in the age group 30–59 years. The men are generally younger, between 20 and 39 years old. The students reside throughout the country, with a small majority of students from rural areas. As Tønseth (2004) observes, the student age implies that many have work and family, which conditions their studies. In some cases, the students have no previous higher education. This characterization makes it difficult to regard distance education students as one homogeneous group sharing the same learning conditions.

Søk & Skriv attempts to cater to student differences through a number of design and structure choices. The tutorial is available on the Internet to maximize student access. The learning content is divided up in two levels: Basic and Advanced. Students may choose content based on their own learning conditions and information needs. The two levels are connected, making progression possible. Furthermore, Søk & Skriv complies with

principles of Web accessibility. Students with special needs such as visual impairment can regulate text size and contrast. In an online learning situation, Søk & Skriv can be used in different ways: for example, in self-tuition. Alternatively, selected learning objects can be integrated in blended learning or face-to-face user education. When there is integration, collaboration between faculty and library is essential in order to enhance student learning.

Tønseth (2004) emphasizes that it is of great importance for distance education students to relate their studies to their previous experience, and to be able to apply their new knowledge to their work context. Søk & Skriv describes the research process in general. The students are responsible for contextualizing the research process in their own discipline and academic task. This approach aims at developing students' "learning-how-to-learn" abilities (Andretta, 2005), which can be applied in their professional life.

THE LEARNING PROCESS

The learning process includes the educator's as well as the student's approach to the contents that are to be taught and learned (Hiim & Hippe, 2006). The educator's understanding of learning determines how contents are presented and teaching methods selected.

Søk & Skriv adopts a social-constructivist view of learning. The tutorial builds upon Kuhlthau's (2004) model of information-seeking behavior, which integrates the pedagogical thoughts of Dewey (1998), the personal construct theory of Kelly (1963). and Bruner's (1973) studies of perception. Kuhlthau's model portrays the information search process as part of an overall constructivist learning process that develops at both an intellectual and an emotional level. The tutorial learning objects presented in Table 2 cover the phases of the information searching process as well as a number of related writing actions.

In line with Dewey's pedagogical thought (Dewey, Alexander, & Hickman, 1998), Søk &

Skriv aims to enhance learning through students' action and reflection on their own academic work. They acquire new knowledge by reflecting upon their actions and the consequences of these actions. The newly achieved knowledge is integrated in the individual's knowledge framework and forms a new platform for reconsidering the problem at hand or solving new problems.

Søk & Skriv encourages students to engage in interaction with others throughout the learning process. Learning is understood as a social phenomenon (Bakthin, 1981, in Freedman & Ball, 2004). The construction of knowledge takes place in a context and through interaction with others, rather than through individual processes only. Learning takes place in dialogue with others. Students gain understanding of their own thoughts and ideas when they communicate and discuss them with others (Dysthe, 1996).

Søk & Skriv's framework places the student at the center of the learning environment. She or he is the main agent in meeting others who represent different "voices" in the learning dialogue, as Figure 6 demonstrates.

FIGURE 6. DIALOGUE PARTNERS IN THE STUDENT'S LEARNING ENVIRONMENT (SKAGEN, TORRAS, BLAABJERG, & HANSEN, 2006, P. 12)
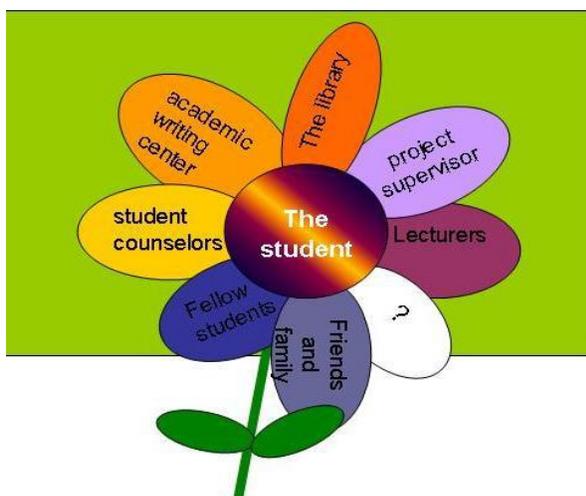
During the learning process, the student turns to different voices that all play a part in the learning environment. In Søk & Skriv, discussion and dialogues between students, lecturers, and other participants are regarded as vital in the student's research process. The librarian is portrayed as a discussion partner in the student's learning environment, and as a voice in the plural discourse the student is exposed to in academia.

Søk & Skriv seeks to support students as they enter an academic field. Students are presented with relevant writing assignments during their information retrieval (Kavli & Mikki, 2006). In Søk & Skriv, Bakhtin's views on dialogue are, for instance, reflected in the learning object "Task initiation," in which students are encouraged to share their thesis ideas with their peer students and others. Formulating and communicating a preliminary research question helps create a focus, which makes the search for information more effective. Bakthin's perspective on dialogue is also present in the learning object "Write," where students are encouraged to form study groups to discuss their text drafts within their own subject areas. Students must relate their writing to existing voices and must find their own persuasive discourse in their meetings with others. Feedback and dialogue in the groups has a positive effect on the writing process (Dysthe & Lied, 1999; Dysthe & Samara, 2006). In her diary, Oda writes about her meetings with the others represented in Figure 6 (e.g., her supervisor, her study group, the librarian) and the effect this has on her academic progress.

In their research apprenticeship model for higher education, Lave and Wenger (1991) and Kvale (1997) merge the thoughts represented by Bakhtin and Dewey. They place learning in the context of social relationships or a community of practice. Everyday life can be seen as the individuals' participation in different communities of practice: for example, family, work, studies, and sports. Different communities have different social structures, with their own rules and established theories of practice.

Practical knowledge in a trade often has hidden rules and regulations which also need to be learned. Polanyi (1958) describes this as the acquisition of *tacit knowledge*—knowledge that cannot be explained, the secret codes of a trade that are passed on within a practicing community.

Søk & Skriv intends to do more than transfer library expertise, such as good searching techniques. The course aims to make tacit academic knowledge explicit throughout the research process, including the process of writing a good paper or thesis. For instance, when students are about to start their research, they are encouraged to reflect on research ethics such as confidentiality and ethical treatment of information. This can help focus content and progress in the research process. In addition, Oda's diary illustrates the mental ups and downs the student and researcher alike encounter during the research process. Emotions and feelings during the research process are rarely discussed in academia, and they can be considered tacit knowledge. Educational activities that emphasize process and dialogue are of special importance for distance education students. The unwritten rules of academia might be especially difficult to grasp for this student group, since dialogue with teachers and peers might be limited.

Online tutorials in library education reflect the library's pedagogical thinking (Sundin, 2005). The pedagogical background has an effect on the content of the tutorial and its presentation. Søk & Skriv mainly has a process-oriented approach to learning. This approach relies on *metacognition*, which refers to the user's thoughts about searching and using information. The content (i.e. the information search) is presented sequentially, with problem formulation and definition of information needs first, then search techniques, critical evaluation of sources, and, where relevant, the writing process. Students move through different phases in their writing process. A student's reflection on his or her own actions and thoughts is essential. However, the research process is seldom linear (Kuhlthau, 2004), and Søk &

Skriv tries to capture this. Students are encouraged to reflect on and reconsider different aspects of their theses or papers along the way. Reconsiderations might include such things as the keywords used in the information search, formulation of the research statement, or rewriting the text drafts.

SETTINGS

Settings are external conditions for learning and teaching (Hiim & Hippe, 1998). They may be imposed by society, an institution, a student group, or an individual. In the case of Søk & Skriv, the Norwegian Reform of Higher Education (Kirke- utdannings- og forskningsdepartementet [Ministry of Education and Research], 2001) is an example of external condition. The reform has played a central role in promoting information literacy education that is student-centered and process-oriented. It has led to more active student learning and increased student text production, which has highlighted the importance of students' information literacy. At the same time, due to the vast amount of information available through the Internet and other digital media, the Norwegian government identified a need to strengthen students' digital literacy, and introduced the national Program for Digital Literacy 2004–2008 (Utdannings- og forskningsdepartementet [Ministry of Education and Research], 2003). In that program, digital literacy is defined as consisting of ICT skills and information literacy. Søk & Skriv is the product of public funding that was made available for the design of online learning objects that enhance digital literacy.

Settings are determined by external factors that are not always easy to control. Settings can limit course planning, but they can also support it. Social technologies have made it possible to communicate in the virtual arenas that distance learning students depend on. Technologies are varied and they serve different purposes, such as the institution's learning management system, e-mail programs, blogs, and shared online writing tools. Virtual arenas promote written communication, and thus contribute to

promoting students' academic writing and learning processes, which is one of the main objectives of Søk & Skriv. Creating a safe and reliable environment is basic to making learning through student collaboration effective, especially in virtual classrooms (Palloff & Pratt, 2001). This implies establishing good guidelines for being one's own editor and ensuring good referencing practices. Still, data security may raise problems and hinder an open attitude among students (Palloff & Pratt, 2007).

Students' access to information is also a learning condition. Information in digital form is a natural part of the virtual classroom, and the library is only one of many sources of information. Information still has to be found, understood, and used in an academic context. The library plays a significant role in this process, and Søk & Skriv aims to meet this need in the virtual classroom.

Virtual arenas offer a flexible environment and are not necessarily dependent on where and when students work. However, the virtual world interplays with the physical one. For example, the number of students in relation to the number of faculty and library educators is a critical factor. Another factor may be the students' need to access printed material and services such as interlibrary loan provided by a local library. Time is also a decisive factor; as discussed by Karjalainen, Alha, and Jutila (2006), deep understanding requires time. Surface learning as a consequence of content overload is not worth the teaching or learning effort. Therefore, defining core content in relation to time allocated is crucial in course planning. Distance education students have limited study time (Tønseth, 2004). Søk & Skriv was designed to identify core content and organize it into different learning objects to help students cope with their personal time and content management.

To conclude, several factors create external settings for virtual learning environments, and played a role in the design of Søk & Skriv: educational policies; use of technology and online resources; and communication between the students, library educators, and academic staff. In the development of the tutorial, it was important to explore the relevance of these factors in relation to the rest of the didactic categories discussed in this article.

ASSESSMENT

As with the rest of the didactic categories, assessment of student skills, behavior, and academic performance needs to be taken into account during course planning. Assessment can be made in relation to the learning goals, the teaching process, and the student's learning (Hiim & Hippe, 1998). Usually, as Bø and Helle (2002) point out, assessment concerns the learning process, where student and teacher judge how well the learning goals have been achieved.

The type of assessment chosen influences the other categories in the didactic relation model. Assessment can be divided in two main types: product and process assessment (Franke-Wikberg & Lundberg (1985); Stenhouse (1975) in Hiim & Hippe (1998)). Product assessment takes place at the end of the educational instruction, and evaluates a student's competence in completing the objectives and requirements set in the learning goals. In many online tutorials, there are opportunities for students to use quizzes or multiple choice questionnaires to test their acquisition of the content of the course. Søk & Skriv does not support this type of product assessment.

Instead, Søk & Skriv adopts a process-oriented view of learning. Students' awareness of their actions and reflection on their own learning are essential. Accordingly, assessment should be process-oriented. It should give students feedback about their progress in the relevant requirements and objectives, and should be given in the course of the learning process. Feedback should support the learning and developing process toward achieving the learning goals. If Søk & Skriv is integrated in the virtual learning environment, the librarian and/or academic supervisor can give online feedback about how the student has solved the

exercises in the tutorial.

The educator's view of how learning takes place determines which assessment methods are most suitable to establish whether students have achieved the learning goals of an information literacy course. Collaboration between library and faculty on assessment might be the best way to evaluate students' achievement of learning goals. In close collaboration, academic staff and librarians can, for example, decide that assessment can include critical evaluation of sources, documentation of use of keywords, and literature searches in relation to the students' written assignment.

Furthermore, faculty can initiate process-based assessment by asking students to produce reflection notes on their research and writing activity. Another option is for students to write diaries, as student Oda does in Søk & Skriv. The students' reflection on their course can increase awareness of practical and theoretical issues in the learning situation. In collaboration, academic staff and librarians can use the notes to improve courses, and students can use these notes to later review their learning process and identify own strengths and weaknesses in a learning situation.

Reflection can also be done by interviewing students during their learning process. This was done during the development of Søk & Skriv. A focus group interview was carried out, and supplemented with an online questionnaire. The evaluation focused on the content and layout of Søk & Skriv. The results of this evaluation project expanded the researchers' knowledge of the students' experience and their views on information literacy. The students' feedback also laid the groundwork to improve and develop the learning environment and content in the learning objects.

CONCLUSION

This article has discussed the pedagogical framework within which an online information literacy tutorial, Søk & Skriv, was developed.

The didactic relation model (Bjørndal & Lieberg, 1978; Hiim & Hippe, 1998) provided a very useful framework to describe and reflect on key factors and their interaction in planning and designing the tutorial. The interplaying categories in the model enabled a conceptualization of how online information literacy education can support a student's learning process. The learning goals of Søk & Skriv are reflected in its content. The learning objects guide students through the research process with the help of exercises focusing on writing, ethics, critical thinking, and information search. In the learning process, the key is to engage students in inquiry that embeds information literacy in authentic learning situations. Information seeking is placed in the context of learning. Students gradually construct meaning and present it to the community of fellow students and teachers. The dialogue and the working process help students become reflective learners. Reflection can be difficult to achieve in a virtual setting; this is why Søk & Skriv encourages metacognition and intends to turn tacit knowledge into acquired explicit knowledge.

Evaluation of the tutorial is planned in the implementation phase, so as to integrate Søk & Skriv better in library user education and in the virtual learning environment. Evaluation will address issues such as students' use of the tutorial and impact on their information literacy.

The libraries that developed the tutorial have invited other libraries and educational institutions to use the product. Other institutions may contribute to further development using the pedagogical principles of the tutorial. New content can be shared through a creative commons license.

The further development of Søk & Skriv will continue highlighting an evidence-based view of educational practice. Evidence-based practice in library user education will contribute to the development of programs and materials which better enhance student learning in a virtual environment. Just as importantly, successful teaching and learning in the virtual environment

is dependent on close collaboration between all higher education partners: academic staff, university administration, information technology staff, library educators, and last but not least, students.

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NOTES

1. Søk & Skriv is available at www.sokogskriv.no in both Norwegian and English. Søk & Skriv was developed by the University of Bergen Library, the Bergen University College Library and the library at the Norwegian School of Economics and Business Administration with funding from the Norwegian Open University (Norgesuniversitet).

2. Hiim and Hippe divide up Bjørndal and Lieberg's category "didactical conditions" into two categories: learning conditions and settings.