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Evaluating the role of web-based tutorials in educational practice: using interpretative repertoires and meaning negotiation in a two step analysis

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This paper describes and discusses a two step analysis for evaluating web based information literacy tutorials in educational practice. In a recent evaluation project the authors used the analysis to examine three web based tutorials developed by three different academic libraries in Norway. Firstly, each web-based tutorial is analyzed as a communicative act by looking at how it argues for its purpose, how it is rhetorically organized and the interpretative repertoires used. Secondly, the tutorial is analyzed as a tool that users form opinions about while using it, and therefore the second part of the analysis focuses on user reception and meaning negotiation. In combination the two different analyses strengthen the evaluation of how web-tutorials as communicative acts become meaningful to users, and how this meaning is negotiated in relation to an educational practice. This approach can be recommended as complementary to more traditional evaluation approaches such as e.g. usability tests.

Introduction

This paper describes and discusses a two step analysis for evaluating web based information literacy tutorials. In a recent evaluation project the authors used the analysis to examine three web based tutorials; *Søk og Skriv*[i], *Råd&VINK*[ii] and *VIKO*[iii] developed and used by three different academic libraries in Norway (see Hyldegaard, J. et. al, 2011). The tutorials were all developed on the purpose of supporting the development of information literacy among university students. The libraries shared the idea about offering flexible web-based user education in academic writing and information seeking that could correspond to the demands within higher education.

During the last decade libraries have experimented with transforming their user-education in to web-based learning products such as the information literacy tutorials investigated here. User education on the web serves the purpose of offering library services on-demand, and the tutorials are therefore mainly developed as stand-alone courses in information seeking and as guides to information sources. As a consequence the use of tutorials in educational contexts may not be directly related to specific learning situations but can be approached by the users anywhere at any time. Therefore an interesting question to investigate in an evaluation of web based user education is how the tutorials become meaningful to users? To what extend do the tutorials relate to the social practices the users are a part of and participate in? Therefore in the present evaluation project one of the main focus points was to get more insight into the role of the three web-based information literacy tutorials in relation to students study practice.

As user education on the web still seems to be a relatively unexplored field within LIS research (Sundin, 2008) the aim of this paper is to present the theoretical foundations of a two-step analysis developed and used in evaluating the three tutorials in the project. Firstly, the web-based tutorials were analyzed as a communicative act by looking at how it argues for its purpose, how it is rhetorically organized and the interpretative repertoires used. Secondly, the web-based tutorials was analyzed as a tool that users form opinions about while using them, and therefore this part of the analysis focuses on user reception and meaning negotiation. In combination the two different analyses strengthen the evaluation of how web-tutorials as communicative acts become meaningful to users, and how this meaning is negotiated in relation to an educational practice. This approach can been seen as complementary to more traditional evaluation approaches and methods such as e.g. usability tests that focuses more narrowly on user behaviour, task-solutions and problem solving while users interact with an information system. In this paper the methodological foundation of the two-step analysis will be presented and the main results of the analysis will be discussed and illustrated in more details by giving

examples from the analysis of one of the tutorials named *VIKO.*

Method

The three tutorials investigated are all structured around two main themes or "tracks"; one illustrating the process of writing an academic thesis or texts (e.g. inspired by Carol Kulthau's work (Kuhlthau, 2004))[iv], and the other more like a "toolbox" giving the user information about reference styles or linking to relevant databases, library catalogues and other information sources. However, all three tutorials are very different in their design and in the ways they are communicating with the user - i.e. how they are organized, their visual expression and their use of rhetoric strategies. In that sense the three tutorials seems to involve potentially many communicative situations that can be established between a certain tutorial and its user, and these situations may be perceived very differently by the users according to their actual practice. When evaluating the tutorials it therefore seemed relevant to seek to combine both a communicative and a rhetoric analysis in trying to capture the potential influence of the different communicative situations on user's interpretation and use of each tutorial.

It resulted in a two-step analysis combining two different analytical approaches. *Firstly*, each web-based tutorial was analyzed by looking at how it argued for its purpose, how it was rhetorically organized and the interpretative repertoires used. As a communicative act each web-based tutorial represented various interpretative repertoires (Wetherell and Potter, 1992).The method used was a textual analysis of written text, pictures and other modalities represented in each tutorial.

This first part of the analysis takes its point of departure in discourse-psychological theory focusing on language and communication. The concept discourse is broadly defined by Potter and Wetherell (1987) as all forms of speech and text, and they think of discourses as interpretative repertoires used by individuals to communicatively express themselves and reality in certain ways. The concept "interpretive repertoires" means: "[…] broadly discernible clusters of terms, descriptions and figures of speech often assembled around metaphors or vivid images" (Wetherell and Potter 1992, p. 90). Repertoires can be used to describe and evaluate actions, events and other phenomena. They are resources that individuals acquire when constructing their own versions of the world. Interpretative repertoires are "[…] building blocks used for manufacturing versions of actions, self and social structures in talk. They are some of the resources for making evaluations, constructing factual versions and performing particular actions "(Wetherell and Potter 1992, p. 90). Discursive psychology is also linked to rhetoric, and the idea that people use language to "do" things. In line with this is the presupposition that the author has a specific

purpose or "will" with his or hers text or speech (Vatz, 1973). Traditionally both discource-pshycology and rhetoric has focused on language and writing as the key modalities, but in recent years especially the multimodality of web-based texts has developed the analysis to also include pictures, sounds, movies, etc. as "signs" (Kress and van Leeuwen 1996; 2001; Kress 2010). In the present analysis multimodality was included by using "website" as the core concept instead of the traditionally used concepts "text" or "speech" when analyzing the tutorials as communicative acts.

Secondly, the web-based tutorials were analyzed as a tool that users form opinions about while using it, and therefore this part of the analysis had the focus on user reception and sense making. The second part of the analysis focused on users' reception of the three web-tutorials. This part of the analysis is based on partly Etienne Wenger's idea of meaning negotiation (Wenger, 1998), which he explains as the interplay between two other concepts; participation and reification, and partly on the reception research (Schrøder et al., 2003). This idea of meaning negotiation is in this analysis transformed into a particular type of interview method combining the dialogue between the researcher and the informant with a "walk-through" of the web-tutorial. It is important that the dialogue begins by exploring the informant's sense of belonging, which means that the interview should take its point of departure in the concrete practice as it is experienced by the informant. The aim of the method is thus not only to test the usability of a web-tutorial and get a glimpse of the interviewed persons immediate reaction to the site, but to investigate the perception and potential use of the tutorial in relation to the interviewed person's social practice. In this case the tutorial and user is both seen as situated in a specific educational practice. Furthermore the idea is to enable a dialogue with the user in the immediate situation while he or she is using the system. It is indeed a situation of use planned and organized by the researcher, but it should not be underestimated, that the concrete use of the tutorial during the interview qualifies the informants' statements about to what extend the tutorial – its design, its communication and its content – becomes meaningful to them. In that sense this method strengthens the dialogue between the researcher and the informant.

A group of informants were selected from the different Norwegian universities where the library had promoted one of the three tutorials as a part of their service[v]. In total 18 students and 14 teachers were interviewed during spring 2011. The informants were interviewed individually and each interview took its point of departure in either the study or teaching practice in which the informants used the tutorial. During the interview the informants did the "walk-through" of the particular web-tutorial developed for their university. Before and after the "walk-through" they were asked to rate the utility of the tutorial in relation to their practice on a scale from 1 to 10.The analysis presented in

this paper draws mainly on the empirical material produced during interviews with students using the tutorial VIKO.

Findings

During the first step in the analysis several different interpretative repertoires were identified in the three tutorials. The repertoires describes on a discursive level the rhetorical organization used in each tutorial, but at the same time they reflect an idea of an educational practice. The educational practice is in table 1 described by three dimensions: a situational, a pedagogical and a work process dimension.

Table 1: Interpretative repertoires in

the three web-based tutorials

Dimension	Repertoires		
	Råd&VINK	Søg og Skriv	VIKO
Situational	Young people		Introduction to the field of science
Work process	Project work	Information seeking	Subject-oriented information seeking
Pedago-gical	Support	Teaching	Check list

The second step of the analysis had its focus on the user's perception of the tutorials in relation to their study practice. In this phase the interpretative repertoires were further discussed among the interviewer and the informant during the concrete "walk-through" of the web-tutorial. Interestingly this part of the analysis showed that the students in many cases did not recognize their own study practice in the rhetorical organization of the tutorial. Especially the work processes described e.g. academic writing, project work and the general descriptions of the information seeking process while writing a thesis did not reflect the students need for support. The modalities used in the tutorials like e.g. comics in Råd&VINK or the video clip in Søg og Skriv did neither appeal to the students. In fact rather the opposite, as some of the students perceived the modalities used as unnecessary "noise". However it seemed like the tutorial VIKO in its design and in its thematic structure using check lists and guides to subject oriented information seeking to at much larger extend were acknowledged by the students. In the following the two-step analysis will be elaborated through selected examples from the analysis of the tutorial VIKO

The communicative analysis of VIKO

The web tutorial VIKO is developed and hosted by the Norwegian University of Science and Technology in Trondheim. On the front page the logo VIKO is accompanied by the sentence "Your guide to Information Literacy", which is pointing at a specific use of the tutorial, e.g. as a tool for developing a certain kind of literacy or competence. In the bottom of the front page information literacy is defined as: "Information Literacy is [about] knowing when and why you need information and the ability to identify, locate, evaluate, organize and effectively use information" (see more at: http://www.ntnu.no/viko/english). The subject of the tutorial is hereby quite clearly stated as concerning skills in information seeking and use in relation to writing an academic paper or thesis.

Figure 1: VIKO start page

The graphic design of the tutorial is only using the color white as background and blue in headings and in pictograms, and then black letters everywhere else. This gives the impression of a serious, academic environment, but also of a cool and clinical environment that brings associations of ideas about the health or natural sciences. The web site is organized in two different main entrances: 1) a menu on the left side of every page giving the opportunity to choose between the following topics: writing papers, evaluating information, defining research topics, information sources, finding web-pages, finding books, finding articles, and 2) the same topic entrances but only placed in the middle of the start page illustrated with blue pictogram buttons in a circle. Graphically and visually these two entrances appear quite differently, and therefore only after a while the user will recognise that the two entrances actually do represent the same content in the tutorial.

Finally, VIKO has a third structure embedded. By clicking on the "SubjectVIKO" button on the start page the user gets access to a page providing links with details on

subject-specific information for 37 different scientific areas.
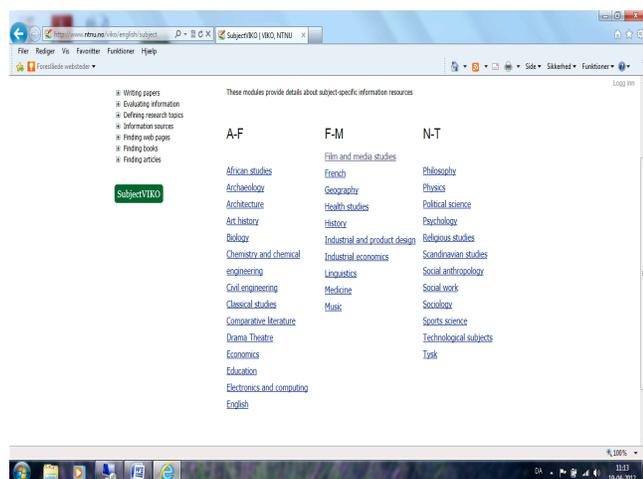

Figure 2: Overview of scientific areas in the subjectVIKO

The VIKO web-tutorial does quite clearly in its structure and design communicate that it is situated in a scientific and educational context. Its purpose is communicated as an introduction to academia by claiming that it is the user's guide to information literacy in that particular context. In its understanding of information literacy it represents what Lupton and Bruce (2010) describes as a generic approach to information literacy where: "... information literacy is seen as a set of discrete skills and processes for finding and managing information" (p. 11). In the start menu (see figure 1) the focus is therefore on the processes of seeking information and providing access to information sources in relation to writing academic papers. However, compared to many other web-tutorials within the generic approach VIKO has a special focus on subject oriented information seeking due to the possibility for navigating between a general level and a subject oriented level of instruction and resources in the SubjectVIKO.

The result of the analysis was the identification of the three interpretative repertoires, firstly a science repertoire, secondly an information seeking repertoire related to the specific university subjects and lastly a check list repertoire (see table 1). Thus, a central question was if and how these repertoires also were recognised and expressed by the students during the interviews and the "walk-through" of the tutorial.

Analysis of user's reception of VIKO in relation to the educational practice

In all 7 students within their first years at film- and media studies were interviewed in April 2011 at the Norwegian University of Science and Technology in Trondheim. All seven students remembered being introduced to VIKO during their first year at university in combination with being introduced to academic writing. But after that, most of them felt that the supervision they received from their teachers regarding academic writing, literature and source evaluation has been more irregular. However, they all expressed that at this stage in their education they were pretty much aware of what were expected from them when writing academic papers, but still at the same time they often felt that they needed a piece of advice regarding e.g. seeking relevant information or writing references corresponding to the academic genre. Most of them therefore emphasized that when they had been using VIKO it has been when they needed help in writing references correctly. References were the aspect of VIKO that they were focusing on. During the walk-through part of the interview almost all of the students were immediately clicking at the "writing papers" button at the start page because they knew that they here could find links to reference styles and information about in-text citation. But besides that, it appeared that they were not so familiar with the system, and that they very seldom had been using it to develop their information seeking skills. It also appeared that not all of them were very familiar with the possibilities of using the SubjectVIKO, and therefore they were very pleased when they discovered the treasures hidden in the film and media studies page e.g. the links to subject relevant journals, databases and web-pages.

The students were positively evaluating the design of the VIKO tutorial. The overall impression of the tutorial was as written text, and some of the students did emphasize the need for more concrete examples and less "words" at some of the pages. For instance the site about "Evaluating information" seemed in many cases to be too abstract for the students.

Summing up the analysis of VIKO

The second analysis showed that the students were primarily interested in getting access to knowledge about reference styles and citation rules, and therefore they first of all recognized the check list repertoire. The other two repertoires seemed to be more in the background. As mentioned earlier almost all of them described their difficulties in writing an academic paper, but they did not relate this task to the tutorial, and therefore they did not think of the tutorial as a tool that could be helpful for them in the writing process. Except for the guidelines for making references it was evident that the students had not used the links under the menu "Writing papers". So the tutorial was not seen as the place to go when they needed help in practicing the academic genre. However, during the "walk-through" of the tutorial several of the students discovered elements of the science- and the subject-oriented information seeking repertoires, and many were quite positive about these findings, and expressed that they found that e.g. the SubjectViko probably could be useful in their future studies.

Conclusion

Educational practices are changing rapidly and hereby changes the meaning attached to the tutorials in the ongoing negotiations about what academic writing, information seeking and learning is about. The combination of a communicative and a rhetoric analysis in a two step analysis has shown its usefulness when evaluating the role of web based tutorials in students learning. In combination the two analyses strengthen the evaluation of how web-tutorials as communicative acts become meaningful to users, and how this meaning is negotiated in relation to the user's social practice. As shown the tutorial as a communicative act did influence the students' reception and use especially concerning the check list repertoire and to a lesser degree the science- and the subject-oriented information seeking repertoires. Therefore, by relating the users reception of the tutorials to their rhetorical organization, design and content some possible answers were given to the question why for instance the VIKO was not a tutorial well integrated in the study practice of the students. The way that the VIKO communicates through the two repertoires "Introduction to the field of science" and the "Subject-oriented information seeking" both failed to make an act that seemed relevant enough to convince the students in relation to their present study practice. Thus, the combination of the two analyses gave a deeper insight in to the reasons for not using the tutorial. The analysis pointed at the barriers and unsuitable aspects of the rhetoric organization and the use of modalities in the tutorial according to too what extend that they may reflect users practice. At the same time it also points at the tutorials potentialities which may have stayed hidden and unexplored for the libraries that have developed these tutorials as a part of their user education and their service.

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[i] http://sokogskriv.no/english/ used by the University of Bergen, Norway

[ii] http://vink.hit.no/Innledning/rd&VINK.htm used by the University in Haugesund and Porsgrunn, Norway

[iii]http://www.ntnu.no/viko/english used by the Norwegian University of Science and Technology in Trondheim, Norway.

[iv] Especially the tutorial "Sök og Skriv" has an overall structure inspired by C. Kulthau's ISP-model.

[v] Users (informants) were selected among students and teachers from the University of Bergen, the University in Porsgrunn and the University of Science and Technology in Trondheim, Norway.