

# Quality information on the Internet. Norwegian library students on the search.

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## **Abstract:**

### **Purpose**

*In the autumn of 2006, two groups of students from the Faculty of Journalism, Library and Information Science at Oslo University College participated in a cooperative project with the Norwegian online reference service, Biblioteksvar.no (Ask The Library (ATL)). The students were in their third term of studies and received instruction in retrieval systems and tools. The main purpose of this paper is to evaluate the performance of the library science students in actual reference work. How satisfactory are the answers provided by the students and how informative are the various links suggested to the patrons? How relevant is the information available on the Internet in relation to the kinds of questions asked by the users of the ATL service? How well do Norwegian library students in their third term of study perform in real virtual reference work? A sample of questions and answers will be examined. In a wider perspective, the study highlights the value of this kind of educational strategy, linking library education and learning closer to the library profession.*

### **Methodology**

*The evaluation criteria are based upon a qualitative analysis of actual questions and answers from the ATL, student summaries of their own work on the project and interviews with professional librarians working with the ATL service. A substantial amount of data has been collected during the project period.*

### **Findings**

*How well did the students perform? Analysis of dialogues and web logs show that the students generally performed very well. This corroborates the findings from a similar project last year. The students' answers had the same level of quality as the responses supplied by professional, experienced librarians working on the ATL service. Possible reasons for this result are discussed. The study confirms the importance of the reference interview for increasing the quality of the responses.*

### **Practical implications**

*The results of the study indicate that the ATL service should not only provide links to information sources in response to user questions but should also include a short explanation of how the links are found. Further, patron satisfaction surveys are useful. The collection of contextual data about the question and the patron may improve the quality of the response from the service. It is recommended that the SMS-based service be included in the student project next year so that the students will have the opportunity to participate in all three of the currently available ATL services (chat, e-mail and SMS) from Biblioteksvar.no.*

## **Originality/value**

*The paper may inspire other faculties and schools of information studies to cooperate more closely with the library profession and to prepare students for their future careers as reference librarians through participation in actual reference work from a relatively early stage in the program of study. The project described in this paper illustrates the change from traditional lecture-based teaching to problem-based learning in projects as outlined in *The Quality Reform in Norwegian Higher Education*.*

**Key words** Reference services, Internet, Student skills

**Paper type** Case study

## **Introduction**

### **Background of the student project**

In 2005, the Faculty of Journalism, Library and Information Science at Oslo University College began a project in cooperation with the Oslo Public Library (*Deichmanske bibliotek*) in order to allow our second year students to participate in a chat-based reference service. Now going into its third year, the scope of the project has expanded.

In their third term of studies the library science students have a course in *Retrieval systems and tools* where the purpose is to learn about theories and methods of reference work, interaction with patrons, user communication and evaluation of web-based resources. About one hundred students take the course each year. Unfortunately, it is not possible for all of the students in the course to participate in the cooperative project with Oslo Public Library. In 2006, twenty students were selected for participation in the project based on their qualifications and marks from their final examinations the previous term.

The students work together with professional librarians for a period of ten weeks. In 2006, we expanded the project to include the e-mail based service in addition to the chat service, making the work more challenging and offering better opportunities for answering complex questions. We hope to include the SMS service in 2007, thus covering the three types of electronic reference services included in the ATL.

In 2006, two groups consisting of ten students each took part in the project. One group worked on the chat service, the other on the e-mail service. Within each group, the students worked in pairs. The chat group worked in 90-minute sessions one day per week; the e-mail group answered two questions per week. One question which we asked the students to be aware of from the outset was: *When pressed for time and faced with difficult questions, how do you think and what are your orientation and search strategies?*

### **A short history of the Norwegian ATL service**

In 1997, the Oslo Public Library started using the Internet for electronic reference transactions with the introduction of an e-mail service called *Spør biblioteket* (*Ask the library*). The background for this early entry into electronic reference services lies in the widespread

popularity of the Internet and the extensive use of cellular phones and SMS among young people in Norway. A chat service was introduced in January 2002 at the Vestfold County Library with seven cooperating libraries.

The two services were united in December 2004 under a new name, *Biblioteksvar.no*, offering chat, SMS and e-mail service (About Biblioteksvar, 2005). *Biblioteksvar.no* receives financial support from The Norwegian Archive, Library and Museum Authority. The service is affiliated with the Norwegian Digital Library, which has been given special priority in a newly published Norwegian library report. Today, forty-four libraries participate in the service, including special libraries within the fields of statistics, economic development, medicine and geology. The service would be significantly improved if more specialized, research and university libraries joined. The service received 11,000 inquiries in 2005. More than two hundred librarians participated in the chat service that year. About 55% of the questions were answered using Internet resources and 45 % with material from library collections (Bibliotekreform 2014, 2006).

### **The Scandinavian ATL services: a comparison**

The corresponding services in Denmark and Sweden are *Biblioteksvagten* and *Fråga biblioteket*. A comparison of the three ATL services shows that the e-mail based Swedish service has the most elaborate Internet site, addressing different age levels, i.e. children and students. Questions may be asked in several languages. Before using the Swedish and Danish services, the patron is asked to fill out a form explaining the background of the question and providing information about the patron's background. This aspect of the Swedish and Danish services is very helpful, but it is lacking in the Norwegian service. Interestingly, only the Norwegian service offers reference services by SMS.

Last year, a group of Norwegian students wrote a report examining the quality of the e-mail based services provided by the three Scandinavian ATL organizations. An evaluation of the answers provided to a set of eleven test questions shows that the level of quality of the Scandinavian electronic reference services is much the same. The study points out that the Danish e-mail service relies heavily on *Wikipedia*, with *Wikipedia* sometimes being the only source of information. While the sample is too small to be representative, it may indicate some general trends (Evaluering av Biblioteksvar, Fråga biblioteket og BiblioteksVakten, 2006).

### **The quality of reference work in Norwegian public libraries**

A nationwide survey in 1993 on the quality of the reference work in forty-nine Norwegian public libraries showed that only 23.8 % of six test questions presented to the reference desk were answered correctly. The questions were fact-based and of medium difficulty, and the reference tools to answer them were close at hand (Salvesen, 1994). Later studies have attempted to find reasons for this dismal result. The main reasons appear to be connected to the lack of reference interview, the staffing of assistant librarians at the reference desk and the lack of experience in using the reference tools. Similar studies in other Nordic countries and in the USA indicate that about 55% of queries receive correct answers (Høivik, 1997).

With the coming of virtual reference and electronic resources on the WWW, the situation has changed dramatically since 1993. The six test questions used in the 1993 study were given to my first year students as an assignment, and they answered them correctly in just a few

minutes. An internal investigation of the e-mail service at the Oslo Public Library shows that 97% of the questions received were answered and that 90% of the users were satisfied. A large internal archive of questions and answers has been built up making possible the reuse of answers and research.

The 1993 survey did not fully answer the question of *why the reference service seemed to be so poor in Norwegian public libraries*. Associate professor at Oslo University College, Gunhild Salvesen, followed up her 1993 work with a new study. Salvesen's doctoral dissertation, published in November 2006, is a qualitative analysis of the reference services in Norwegian public libraries with the main focus on dialogue and the role of communication. She introduces a new model for reference work where quality is defined in terms of a totality of the variables: answer, patron, librarian, physical surroundings, organization and time (Salvesen, 2006 p. 35). Her work is based on dialogues at the reference desk in a selection of Norwegian public libraries. Her study indicates that unsatisfactory reference work may be connected to the following factors: the lack of a reference interview, searching before the patron's question has been fully specified, the lack of patron involvement in the search process and the use of search terms taken from the patron's opening question and not from a controlled vocabulary (Salvesen 2006, p. 206). Our students had to deal with many of the same issues in the project this past term.

### **Professional librarians and students: a comparison of answers to the same question**

Sometimes librarians on duty receive the same question several times, for instance from school children doing the same assignment.

On November 11<sup>th</sup>, this question popped up on the students' screen: *Where can I find facts about ice melting on the North Pole? I need concrete figures*. After the introductory welcome dialogue, the students responded after six minutes with a relevant link to a Norwegian research site (*forskning.no*) containing not only a good answer with facts and figures, but in addition links to scientific journals, among them *Nature*. Two more minutes passed, and the students sent over two more links, both relevant but not containing many figures.

Half an hour later, the same question was posed to a professional librarian, who answered in the course of eleven minutes with three links. The first one did not contain any figures at all. It only showed a map of the Arctic from a commercial site with a lot of annoying, flashing advertisements. The second link was of little use because the patron needed figures, and the third one was totally irrelevant.

This example was brought to my attention by Asgeir Rekkavik of the quality control group for The Norwegian ATL service. This special group has been established to check the quality of the ATL service. In this case, the professional librarian on duty was criticized for the poor answer, not only for the reasons mentioned above, but for the dialogue as well: *try to click around while I look for more*. There was actually no place on the site where the patron could click. Further, the librarian did not use quality subject directories like *Detektor* (the web directory of the Oslo Public Library) or *BUBL* (the English web directory with links to selected high quality Internet resources) which probably would have provided a better answer. The website of Statistics Norway, whose library actually participates in the ATL service, might have been useful in answering the question as well.

This example is neither representative nor typical of the students' performance in comparison with the professional librarians. Although an extreme case it can be used as a direct comparison between answers from our students and the professional librarians to the same question at the same time. Nevertheless, the result conforms with the results from the project in 2005, when our students performed as well as, and sometimes better than, the professional librarians (Frodesen & Sveum, 2006).

At the outset of the project in 2005, we had expected that the professional librarians, having the benefits of long experience and completed educations, would do better than our students. That was not the case. Analysis of the dialogues showed that the students had a better control of the chat medium and were better able to determine patron information needs through the reference interview. In addition, the students were highly motivated, service-minded and had the advantage of working in pairs.

### **What is quality information and how do the students find it?**

The concept of quality has been characterized as easy to recognize and difficult to define. Subjective factors, like adaptability and suitability, may vary from person to person. Factual information is, in most cases, either correct or incorrect. Information based on opinions, theories or hypotheses, however, may be controversial, conflicting and transient. The strength of the *argument* determines the quality. Thus, it is important to distinguish between the two types of information.

A short definition of quality in reference work might be to supply the patron with the correct and complete answer in the shortest possible time. This is not synonymous with user satisfaction. The patron may feel satisfied even when the answer is poor or incorrect.

The students and librarians must have ready access to the main search tools from their desktops. Knowledge of and familiarity with web directories and Internet sites from expert sources and official authorities are essential. For this purpose, the Norwegian library web directories, *Detektor* and *Bibsys*, are quite useful. Equally important are the web portals from other public libraries, such as those from Bergen, Trondheim and Bærum. These portals are designed for use by the general public, but it is important for the students to know about them as well. We advise the students to make their own directories specifically designed to meet the needs of the ATL service, since the internal directory of *Biblioteksvar.no* is neither updated nor complete.

When teaching reference work to library students, we focus on web directories and Internet sites where we expect to find quality answers. Most people are able to do a simple *Google* search, so the students have to go beyond that. We stress the importance of relevant portals and subject gateways of quality. We teach the students methods, strategies and techniques of searching. We emphasize the reference interview and the evaluation of web pages as well as copyright issues. Theory is combined with practical search exercises, which we try to make relevant, topical and illustrative. In their first year of studies, the students work with a selection of questions from *Biblioteksvar.no*.

### **What is quality in a reference transaction?**

There are some criteria that must be fulfilled in order to call a chat-based reference transaction a success. Most importantly, the question must be read carefully, and the student/librarian

must identify the real question via the reference interview by putting the patron in context. Here our students perform better than the professional librarians, perhaps because they are trained in the reference interview in their first year of library studies.

Unfortunately, the students and librarians working on *Biblioteksvar.no* do not have the benefit of any background information about the patron or the context of the query, unlike the situation with the Swedish and Danish e-mail based services where the patron submits a form with his or her query. While working with the ATL service, the students attended lectures in communication theory and library ethics and worked on practical exercises. The cultivation of good online communication skills is essential. Most students are well acquainted with the chat medium from other settings, so the dialogue generally flows easily, as apparent in the chat logs.

To summarize, quality in the chat-based ATL service is based upon the following factors:

- The content of the answer is the single most important factor to be evaluated. Simple questions must be answered with clear answers and links verifying the answer. Complex and difficult questions, which cannot be answered during the chat session, can be followed up by e-mail. It is necessary to evaluate and examine the content of the links before sending the answer. The answer must be correct, comprehensible, up-to-date and adapted to the user.
- The reference interview is crucial for quality in the service. The questions must be read closely and follow-up questions are necessary to determine the patrons' information needs.
- Time matters. The question must be answered as quickly as possible, and adequate time must be set aside to find the answer.
- Good communication through precise and polite language is necessary, even when the patron is abusive.

In addition to these points, the software must work well and the web addresses must be entered correctly. The archive is important for checking previous questions and answers. Access to good reference collections and competent library personnel are prerequisites for a high quality reference service. *Biblioteksvar.no* regularly arranges seminars, lectures and fora for the discussion and exchange of experiences among the participating librarians.

### **Evaluation of student performance**

In order to evaluate the students' performance, it is necessary to take a closer look at some of the questions that appeared on the students' screens during the project period. The questions have been selected with an attempt to illustrate different types of questions: factual questions, questions about a particular subject, questions about documents and questions seeking help or advice.

All of the examples are from the internal archive of the ATL service. The material has been collected during a ten week period from September to November 2006 and consists of dialogues from the chat service and questions and answers from the e-mail service. The material has been supplemented with the students' logs after each working session and student essays summing up their experiences and thoughts about the project.

Thematically, the questions in the ATL service span all subject fields with a predominance of questions on the arts and the social sciences. The questions may be categorized in other ways as well, for example according to subjects and levels of difficulty and complexity. The students' responses to the following six questions will be evaluated below:

1. *What's the difference between DVD-R/W [and] DVD+R/W?*
2. *Where can I find information about intercourse, condoms and contraceptives?*
3. *Do you have some pages about [the Norwegian author] Tove Nilsen? Could you look for something about J.K Rowling too?*
4. *This summer my mother's boyfriend tried to rape me. Can I report it to the police, do I need evidence? I struggle to get over this. Can you help? I am 15 years old.*
5. *What kind of DVDs does the library in Flisa have? Can I borrow them?*
6. *I am doing an assignment on racism. Do you have some information about the Ku Klux Klan?*

These are some typical questions. Generally speaking, the students answered them very well. However, if you look closer at some of the answers, it is not difficult to find unsatisfactory and inadequate responses.

The first question: *What's the difference between DVD-R/W[and] DVD+R/W?* was answered with a link that gives some general information (in Norwegian) about only one of the DVD formats. The patron had to read through a lot of text without finding an answer. This is a typical mistake. One should always take the time to assure oneself that the content behind the link is relevant and up-to-date. This question has been posed many times. It would have been more efficient to search the archive of *Google Answers*. Unfortunately, *Google Answers* was closed down in the beginning of December 2006. Nevertheless, other "Ask-A" services, both commercial and non-commercial, in Norwegian and in English, can easily supply an answer to this factual question.

The second question: *Where can I find information about intercourse, condoms and contraceptives?* was easily answered with a link to a Norwegian quality website, *ung.no*, which contains information for young people. It is run by Norwegian Directorate for Children, Youth and Family Affairs. Within the fields of medicine, health and sexuality, there are numerous quality sites in Norwegian for young people. They can be located by using the Norwegian web directory *Detektor*. *Detektor* operates in cooperation with *Biblioteksvar.no* which has its own web directory.

Similarly, question number 3, requesting information about the Norwegian author, Tove Nilsen, was easy to answer. Here again Norwegian library web directories like *Detektor* and *Bibsys* list numerous useful sites with information on authors as well as book reviews.

Sometimes, the service receives requests for help because of sexual abuse or other emergency situations, as in question number 4 (*This summer my mother's boyfriend tried to rape me. Can I report it to the police?*). The students/librarians are not professionals with authority to give advice in such matters. Their job is to direct the patron to professionals or to web pages where

relevant information can be found. In this case the students answered with a link to the above mentioned site by the Norwegian Directorate for Children, Youth and Family Affairs, where a sub page provides links to assistance (*Do you need help or advice?*). The Wiki web directory of *Biblioteksvar.no* has its own list of emergency hot lines.

The Norwegian library address directory, *Bibliotekveiviseren*, run by The Norwegian Library Bureau (*Biblioteksentralen*) has information about the public libraries in Norway and is the source that was used for the answer to the document-related question (*What kind of DVDs does the library in Flisa have? Can I borrow them?*).

The last question (*I am doing an assignment on racism. Do you have some information about the Ku Klux Klan?*) was answered with links to the Norwegian *Wikipedia* and the English *Wikipedia*. The Norwegian article is short, factual and not very good, which is typical for a number of articles in this database. The English one is much better with relevant links and references. In addition, *Answers.com* provides quality information from numerous dictionaries and encyclopaedias.

In this case, web directories should be the first choice of web-based resource and search engines avoided. All of these questions were relatively easy to answer.

### **Complex and difficult questions**

What about questions that are complex, difficult to answer or to which there are no answers to be found on the Internet or in printed material?

In one such case, a patron wanted a web picture of the steamboat *Urundi*. The students on duty in the e-mail service searched *Google* images and the Norwegian search engine *Sesam*. *Google* only found one picture, which was a photograph of an oil painting. The students continued the search in registers of ships and wrecks and historical databases. Finally, they contacted the Norwegian Maritime Museum, which did not find pictures either, but supplied the patron with some background information on the ship.

The students spent hours trying to find answers when encountering difficult questions and this was typical of the students' procedure. The knowledge they gained from this experience was that it is important to have a "reference network" in connection with the e-mail service, experts to whom they might turn when they could not find the answer themselves.

Another patron wanted links about the conflict in the Middle East and the Six-Day War. In controversial conflicts, it is often difficult to find good answers. The main task is to find information balancing the various points of view. The students provided links to the Norwegian *Wikipedia*, articles from Norwegian newspapers during the conflict and the BBC.

The main problem in the e-mail service is the lack of a reference interview and the question of how much information should be provided, especially on controversial topics.

All three ATL services in the Scandinavian countries use a variety of sources and reference tools depending on the type of questions and on which of the services is used, SMS, chat or e-mail. The use of *Wikipedia* is widespread and controversial. The articles in the English version may have a high quality, as the widely commented article in the science magazine



*Nature* seemed to indicate (Giles, 2005). The articles in the Norwegian *Wikipedia* are often considered poor, but the Danish and Swedish versions can sometimes be used as alternatives.

Based on his experiences during the project period, one student in the e-mail service divided the questions he received into four main categories: 1) *concrete questions* such as publishing dates of documents, discographies of recording artists etc., 2) *factual questions*, facts about Finland, Judaism, etc., 3) *why questions*, why did the USA go to war with Iraq, why do Islamic women wear the hijab, etc. and 4) *how questions* which often are related to technology or science, such as how does a generator generate power. He stressed that in the categories 1, 2 and 3 good answers could easily be found on the Internet. In category 4, where the questions could be complex and difficult, it was occasionally impossible to find satisfactory answers on the Internet. In these cases reference to printed material was appropriate.

### **Library education and the library profession.**

The idea behind the project has been to link the library profession closer to library education and to prepare the students more fully for their future careers as librarians by giving them a taste of real reference librarianship. The assignment is performed in a realistic setting with the students participating on the same basis as professional and experienced librarians, answering real questions. There are no predefined, correct answers to constructed questions.

The project can be seen as an example of problem-based learning within the framework of the Quality Reform in Norwegian Higher Education (The Quality Reform, 2003). The reform encourages a pedagogical shift from traditional lectures to active learning in groups, often in the form of projects, with guidance and monitoring of the students. Reports from the projects and student essays on their thoughts and experiences while working on the projects replace traditional final examinations.

We had three group meetings with the students. The first meeting introduced the ATL service and provided training in use of the software. We had a mid-term meeting and a final meeting for summing up. In addition, there were two lectures on virtual reference, one specifically dealing with the ATL service by a member of the quality control group.

### **Conclusion**

A summary of the students' viewpoints expressed at the mid-term and final group meetings includes the following:

- Participation in the project was exciting, fun, instructive and highly motivating. They felt much safer in the reference situation after having taken part in the project than at the outset when they were stressed and nervous.
- The importance of the reference interview and determination of the patron's age level in the chat service was emphasized. The lack of dialogue and background information on the patron in the e-mail service was a big problem. The questions have no context and need to be interpreted. A simple form providing contextual information would improve the quality of the service. Sometimes a question might very general, and the search terms could be difficult to determine as the patron's own words were often misspelt and imprecise.
- The use of *Wikipedia* and alternative sources of information was discussed, as were search techniques and the use of *Google* and subject directories. A combination of

search engine and subject directory was useful as was a comparison and evaluation of different information sources.

- Some patrons posed a variety of unrelated questions in one sequence and some did not care about reading the answers.
- Sometimes it is a problem that too much information is returned to the patron. It is difficult to decide what the right level is.
- The students wanted more feedback on the quality of their answers.
- For pedagogical reasons not only answers and links should be provided but also an explanation of how the answer was found.

At the final meeting certificates attesting to their participation in the ATL service were given to the students. The students expressed gratitude for the great learning benefits. A short, newly published user manual with tips and advice to the participants of the Norwegian ATL service was also handed out (Brukermanual 2006).

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