



## Information Literacy Applied on Electronic Resources - Practices from Brasov, Romania and Bergen, Norway

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**Meeting:**

**158 Division of Education and Research**

**Simultaneous Interpretation:**

no

**WORLD LIBRARY AND INFORMATION CONGRESS: 73RD IFLA GENERAL CONFERENCE AND COUNCIL**

19-23 August 2007, Durban, South Africa

<http://www.ifla.org/iv/ifla73/index.htm>

**Abstract:**

*“What does the widespread access to Internet mean for the use of libraries? And how can information literacy assist in helping people cope with the new information behaviour shaped by Internet?”*

*The Internet represents the handiest, cheapest and commonly accessed source by all users, be they from academic, high school or other environments.*

*The Internet provides a large amount of information in all fields. Universities and university libraries have the mission to educate the users’ practical and scientific spirit. Through different programs, courses, long life learning in university libraries there are envisaged competencies as follows:*

- 1. Easy access to Internet resources;*
- 2. Correct formulation of the search request in the search box;*
- 3. Use of Boolean operators for advanced research and use of restrictions and limits in the searching process;*
- 4. Definition and access of search engines and search tools;*
- 5. Access to scientific information resources*
- 6. Assessment and assessing means of these resources*
- 7. Dissemination and disseminating means of scientific researches, storage means*

*In light of the above-mentioned competencies, the present article envisages to present the programs developed at Transilvania University Library and provided for the students, as well as the programs developed at the University of Bergen Library for the Arts and Humanities students.*

*The programs developed in Bergen rely heavily on Carol Kulthaul’s view, that learning the information literacy is a learning process with a certain set of accompanying emotions. Also, the*

*successful information literacy courses need to be situated at a time when the students are writing essays, and in close cooperation with the University teaching staff. The learning outcomes must be developed in a dialogue with the teaching staff in order to be relevant for the student.*

*In the presentation, we will also look at the principles of educational marketing and applications within the university library.*

*The conclusions will be outlined by analyzing the results of an in-depth study of the users' perception and conduct, the utility of the notions presented and the users' expectations with respect to the librarians' role in their instruction. We also aim at analyzing the users' behaviour (students, master students, doctoral students, professors. Information management will be approached from both the library and the users' point of view, and a special emphasis will be laid on the improvement of the research activity in the university."*

**Information literacy combines skills or competencies that together make for effective use of information.** In an era of lifelong learning, this effectively means that information literacy has relevance for all ages from primary school to senior citizens. Information literate people understand more than how to find information, they understand its limitations and the need to examine how they use information, and they understand how to manage and communicate information.

Information literacy is an essential and discrete dexterity – everyone relies on information every day. Perhaps one important point that can be drawn out, and which is useful to emphasise here, is that information literacy is about information in all forms. Information may come from another person, from a paper-based magazine or book, report or newspaper, from a digital source such as a database, a search engine or an e-book accessed through a computer, or it may come from any other form of media: film, video, DVD, radio, television, etc. The definition and skills or competencies above cross all media.

Perhaps the most recent alternative definition to the one offered here by CILIP is that originating in the UNESCO-sponsored Meeting of Experts on Information Literacy in Prague:

**"Information Literacy encompasses knowledge of one's information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of lifelong learning."** (US National Commission on Library and Information Science, 2003)

The United States and Australia have used the same construct in their earlier definitions:

**"To be information literate, a person must be able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information."** (American-Library-Association, 1998)

**"Information literacy is an understanding and set of abilities enabling individuals to 'recognise when information is needed and have the capacity to locate, evaluate and use effectively the needed information'."** (CAUL, 2004)

Sheila Webber, who was instrumental in developing this CILIP definition, had also developed an earlier definition:

**"... information literacy is the adoption of appropriate information behaviour to obtain, through whatever channel or medium, information well fitted to information needs, together with a critical awareness of the importance of wise and ethical use of information in society."** (Webber and Johnston, 2003)

Some common threads can immediately be seen in these, such as:

**"Information literacy is knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner"**

*The Aspects* which constitute the information literacy are represented by:

- **Tool literacy**, or the ability to understand and use the practical and conceptual tools of current information technology relevant to education and the areas of work and professional life that the individual expects to inhabit.
- **Resource literacy**, or the ability to understand the form, format, location and access methods of information resources, especially daily expanding networked information resources.
- **Social-structural literacy**, or knowing that and how information is socially situated and produced.
- **Research literacy**, or the ability to understand and use the IT-based tools relevant to the work of today's researcher and scholar.
- **Publishing literacy**, or the ability to format and publish research and ideas electronically, in textual and multimedia forms (including via World Wide Web, electronic mail and distribution lists, and CD-ROMs).
- **Emerging technology literacy**, or the ability to permanently adapt to, understand, evaluate and make use of the continually emerging innovations in information technology so as not to be a prisoner of prior tools and resources, and to make intelligent decisions about the adoption of new ones.
- **Critical literacy**, or the ability to evaluate critically the intellectual, human and social strengths and weaknesses, potentials and limits, benefits and costs of information technologies.

*The steps* to be undertaken during the complex and at the same time logical process of information initiation will be mentioned as follows:

1. The first step in the Information Literacy strategy is to clarify and understand the requirements of the problem or task for which the information is sought. Basic questions asked at this stage:

*What is known about the topic? What information is needed? Where can the information be found?*

2. **Locating:** The second step is to identify sources of information and to find those resources. Depending upon the task, sources that will be helpful may vary. Sources may include: books; encyclopedias; maps; almanacs; etc. Sources may be in electronic, print, social book marking tools, or other formats. Basic steps taken at this stage:

*Investigating encyclopedias or other general material for background; refining search to target the task or problem-solving.*

3. **Selecting/analyzing:** Step three involves examining the resources that were found. The information must be determined to be useful or not useful in solving the problem. The useful resources are selected and the inappropriate resources are rejected. Examples of basic questions at this stage:

*Where does this information originate? Who wrote it/published it? For whom is it written? How does it bear comparison with other knowledge in the same field?*

4. **Organizing/synthesizing:** It is in the fourth step that information which has been selected is organized and processed so that knowledge and solutions are developed. Examples of basic steps in this stage are:

*Discriminating between fact and opinion; Basing comparisons on similar characteristics; Noticing various interpretations of data; Finding more information if needed; Organizing ideas and information logically*

5. **Creating/presenting:** In step five the information or solution is presented to the appropriate audience in an appropriate format. A paper is written. A presentation is made. Drawings, illustrations, and graphs are presented.

6. **Evaluating:** The final step in the Information Literacy strategy involves the critical evaluation of the completion of the task or the new understanding of the concept. Was the problem solved? Was new knowledge found? What could have been done differently? What was done well?

**Another conception**, used primarily in the library and information studies field, and rooted in the concepts of library instruction and bibliographic instruction, is the ability "**to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information**" (Presidential Committee on Information Literacy. 1989, p. 1). In this view, information literacy is the basis for life-long learning, and an information literate person is one who:

- *recognizes that accurate and complete information is the basis for intelligent decision making*
- *recognizes the need for information*
- *knows how to locate the needed information*
- *formulates questions based on the information needs*
- *identifies potential sources of information*
- *develops successful search strategies*
- *accesses sources of information including computer-based sources and other technologies*
- *evaluates information from no matter what source*
- *organizes information for practical application*
- *integrates new information into an existing body of knowledge*
- *uses information in critical thinking and problem solving (Doyle, 1992)*
- *uses information ethically and legally.*

## **Information Literacy and Higher Education**

Developing life-long learners is central to the mission of higher education institutions. By ensuring that individuals have the intellectual abilities of reasoning and critical thinking, and by helping them construct a framework for learning how to learn, colleges and universities provide the foundation for continued growth throughout their careers, as well as in their roles as informed citizens and members of

communities. Information literacy is a key component of, and contributor to, life-long learning. Information literacy competency extends learning beyond formal classroom settings and provides practice with self-directed investigations as individuals move into internships, first professional positions, and increasing responsibilities in all arenas of life. Because information literacy augments students' competency with evaluating, managing, and using information, it is now considered by several regional and discipline-based accreditation associations as a key outcome for college students.

For students not on traditional campuses, information resources are often available through networks and other channels, and distributed learning technologies permit teaching and learning to occur when the teacher and the student are not in the same place at the same time. The challenge for those promoting information literacy in distance education courses is to develop a comparable range of experiences in learning about information resources as are offered on traditional campuses. Information literacy competencies for distance learning students should be comparable to those for "on campus" students.

Incorporating information literacy across curricula, in all programs and services, and throughout the administrative life of the university, requires the collaborative efforts of faculty, librarians, and administrators. Through lectures and by leading discussions, the faculty establishes the context for learning. Faculty also inspires students to explore the unknown, offers guidance on how best to fulfill information needs, and monitors the students' progress. Academic librarians coordinate the evaluation and selection of intellectual resources for programs and services; organize, and maintain collections and many points of access to information; and provide instruction to the students and faculties that seek information. Administrators create opportunities for collaboration and staff development among faculties, librarians, and other professionals who initiate information literacy programs, lead in planning and budgeting for those programs, and provide ongoing resources to sustain them.

Information literacy is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Because of the escalating complexity of this environment, individuals are faced with diverse, abundant information choices-in their academic studies, at the workplace, and in their personal lives. The uncertain quality and expanding quantity of information pose large challenges for society. The sheer abundance of information will not in itself create a more informed citizenry without a complementary cluster of abilities necessary to use information effectively.

Two of the university libraries that have accepted the challenge from students and staff to try to solve this need for information literacy are University of Bergen Library in Norway, and Transilvania University Library of Brasov, Romania.

### **Practices in Bergen**

There have always been library courses at the University of Bergen Library, e.g. at entrance level for the Medical and Law students, or at master level for students of Social Sciences or Humanities. Traditionally, these courses have focused on the resources available, the OPAC, the databases, the journals (electronic or printed) that students may use.

As part of the Bologna Process, the system of higher education in Norway went through major changes. Among other things, and relevant for this discussion, the studies themselves were broken up into smaller units, and quite a few of them changed from having a traditional written exam at the end (called "school-exam") to having essays or papers as the form of evaluation.

In this situation the Library started looking closely at its own practises and relationships with the students. We were inspired by the form of “information literacy” that had been developed especially in the old polytechnics in North England, and by the pedagogical teachings of Carol Kulthaul, and applied to the University Senate for funding in order to make something similar.

With this extra funding, we appointed several working groups to look at different aspects of information literacy, and we cooperated with different other libraries in Norway and Denmark. (Garnes et al, 2006)

So how do we go about making sure that all students develop information literacy? This, of course, is the difficult task. Students are pressed for time, and professors feel that their own favourite subjects receive far too little attention and time in the curriculum as it is. On the other hand, some of the teaching staff realize that students that are on their way to becoming information literate have mastered the basics in studying, and need little help with this, instead of proving to be more rewarding in a tutorial situation, and getting better grades.

This way, we have been able to gain acceptance in some departments by personal connections and knowledge, or by proving our worth to the teaching coordinator. This works for as long as the teaching coordinator is in position, but a major drawback is that teaching coordinators will change every three or four year. Also, the subject specialists may change or be on leave, and then the whole plan may falter. We see that this is a very vulnerable and person-dependant way of working, which however functions very well when it functions.

At the same time, the library has been very active in the University teaching advisory committee, making sure that they are fully informed about the programmes we have developed. The University has asked the faculties to start cooperating with the library in order to implement information literacy in the most efficient way.

So this is the way we work at the moment, trying to encourage the different departments to commit themselves to the library’s program of information literacy. We need full cooperation from the teaching staff, as they are the ones that know when and how the library’s teaching will be best situated in the total teaching of the students.

We aim at giving the information literacy course in the best possible time, in relation to the essay, paper or problem-solving task that the students face. We need to know what kind of essay they are writing, what kind of results the teacher is expecting, and what the learning outcomes are expected to be. Only then can our program be of the most use for the students.

In our experience, it is not very difficult to get this information from the teaching staff. Almost every one is happy to cooperate with the library, and eager for any help their students may get. Sometimes we disagree on what is to be taught. The main challenge for us at the Arts and Humanities faculty is that we serve many different subjects and departments, and that this cooperation is very time-consuming initially.

The program that we use at the moment is called “Search and Write”, and may be seen here: <http://www.sokogskriv.no/> It has been developed by a task force put together by the University of Bergen Library, the Bergen College Library, and the Norwegian School of Economics and Business Administration Library. It has two main modules, one for new students, and one for students at the

master level. Both the different modules are again split in smaller units, with teaching material and exercises adapted to the different steps in a student writing process as outlined by Carol Kulthaul (Kulthaul 2004).

Kulthaul has developed a model of the information search process, divided into the following stages: Task initiation; topic selection; prefocus exploration; information collection; search closure. (Kulthaul 2004, p. 45). This is the basis for the information literacy program we have participated in developing.

In addition, we have developed two modules on the academic integrity and the ethical use of other scholars' texts, and how to evaluate an academic text for use in your own work. These last modules have been developed by us as a result of wishes from the teaching staff, and represent one of the ways the University will deal with plagiarism.

The modules consist of text – information about the stage of an information gathering and/or writing process that the students are going through at this specific time, exercises, examples of good practises or good tools for the specific situation. Some of the modules have small films integrated. All this is freely available on the internet for the students to return to after the course. Also, students that are not on campus may find/be shown and use the modules.

The academic librarian (they are the ones doing the most of the teaching) responsible will use as many or few of the different modules as s/he finds appropriate, in whatever order s/he finds best in order to provide the best possible course for the students, in agreement with the department and the learning outcomes.

In order to show you how we use this program, I will use the experiences of one of our subject specialists, Solveig Kavli, who is the subject librarian for History of Religions, where she has her Master Degree. Ms. Kavli will start by getting in touch with the department, talking to the head of teaching and the administrator in charge of the teaching programs. This she will do in the period before the actual course is being held. Sometimes there will be a meeting, but sometimes they will just decide on what is going to be taught, how many hours, when and what the library course in information literacy will focus upon.

The desired teaching outcomes will vary, depending on the level where the teaching is being done, as well as what kind of exam or task the students are going through. Normally, we are talking about a two- or four hour slot in the students' time table. We have already, as part of our own process with information literacy, made a set of learning outcomes to be achieved for the different levels (new or more experienced bachelor degree student; master student; Ph.D.)

After these different parameters have been set, Ms Kavli will plan and write the actual teaching. She may be helped in this by the library database for teaching information literacy, where she can find examples of teaching, of exercises and texts, and of good advice and tips from other librarians. We have also developed a pedagogical manual as part of the programme.

At the department of History of Religions, the administrator will enter the data for the course in information literacy in the department timetable, for all students to see, equal to any other teaching, that that term is being given from the department. Ms. Kavli will book the time for the teaching in the library teaching room, and will ask for helpers from among the other librarians if there will be more students than she can handle by herself. At the first level, there may be more than 100 students. Such large groups will be divided into groups of 15 – 20.

Even if there are helpers among the other librarians, Ms Kavli will make the teaching material, planning it in accordance with the focus agreed upon with the department head, and the power points that we will show the students. She will be responsible, and will guarantee the quality and the validity of the teaching of information literacy to our students.

The teaching itself will, as far as possible, start from the students' tasks, depending on where the students are in the process. If they are at the very beginning, having to decide what area of the subject they will explore, the teaching will be different from if they have already formulated (or been given) the problem. This makes it difficult to give an outline of what the actual teaching in the library will consist of, but you will be able to see, in our program "Søk og skriv" ("Search and write") the different modules and their content.

After the teaching, there may be a questionnaire or a focus group from among the students to help us develop further and be even better.

## **Practises in Braşov**

**The marketing research** is the formal activity through whose intermediary, and with the help of scientific investigation concepts, methods and techniques there is systematically accomplished the specification, measurement, collection, analysis and objective interpretation of marketing information, which are destined to the management of the institution with a view to better knowing the environment in which they function, to identifying the opportunities, to evaluating the alternatives of the marketing actions and of their effects.

**Qualitative research** stands for an investigation of different complexity levels meant to identify, clarify and define what is relevant, significant and important for a certain marketing issue, opportunity or context. It likewise allows a deeper understanding of the concepts and of the essence of the phenomena and processes under analysis.

Qualitative research sets out to answer questions such as **why?** and **how?**, aiming at a thorough knowledge of the causes of the consumers' attitudes, behaviors, preferences and opinions, as well as of the subjective, emotional or unconscious elements which lay at their basis.

Qualitative research is characterized by specific features such as:

- The researcher aims at comprehending and explaining the phenomena under study;
- There are resorted to methods and techniques pre-eminently used in psychological and sociological investigations;
- There are used samples of reduced dimensions, set in a rigorous manner, as in the framework of qualitative research, the statistical suggestibility of the sample does not matter at all;
- The researcher plays an active role in the process of research, of obtaining information of a qualitative nature, usually measured on a nominal scale.

In the case of the present research, there has been chosen the method of the non-directive in-depth interview.

**THEME:** Students and the information need  
Introduction of the course of Information Literacy to all fields, taught by the staff of the library.



**PURPOSE:** Finding the information needs and the skills necessary for the students in order to carry out the information, documentation, with a view to accomplishing the individual study, themes, projects, doctoral and master's theses.

## **DEVELOPMENT**

4 Stages, duration of 1 – 2 hours

## **INVESTIGATION METHOD**

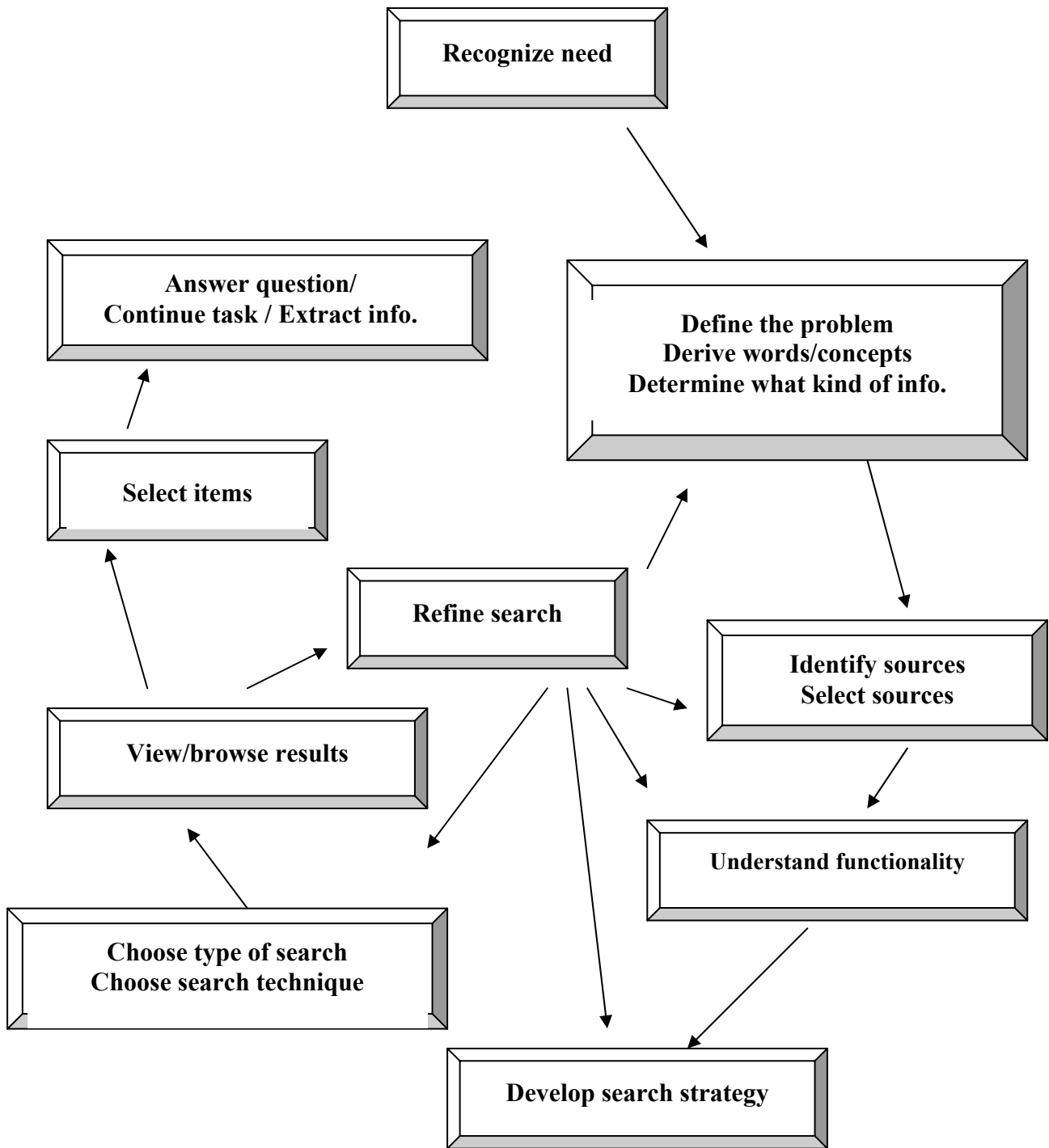
Semi-structured in-depth interview

### **1. Introduction stage (5 – 15 min)**

**OBJECTIVE:** discussions upon the information need

- Presentation of the logical scheme with a view to accomplishing a research theme
- Facilities in retrieving and managing the resources
- Facilities in storing the research

Logical scheme for solving a research theme



## **2. Focus Stage**

The group of students participating in the research is investigated with respect to their wishes as regards the development framework, their needs and their requirements.

The students are led to the study room. Every student has access to a terminal and has at his/her disposal all instruments necessary for storing the information, both on traditional and on electronic media.

The students are suggested the theme, the manner of development and the importance of perusing the course of Information Literacy for their subsequent professional development.

There is suggested for this course to be conceived and to take place in the framework of the library, and the instructor should be a librarian.

## **3. In-depth Study Phase**

### **Conception of the product: Structure of the course**

The students are suggested to imagine they are librarians and they should plan the course.

Every student chooses a research theme and aims at traversing the stages in the advanced logical scheme.

### **Presentation of the Product: Course of Information Literacy**

### **Skills pursued through the development of the course**

#### **Information Literacy Skills area**

- Skills of defining a problem or research topic
- Information sources skills
- Skills of Internet resources
- Internet search skills
- Skills of database and library search
- Skills of evaluating information and sources
- Referencing skills
- Skills of synthesizing information
- Information presentation skills

### **Structure of the course**

The librarian discusses with the students every step in the development of the research.

### **A broken-down table of activities:**

Schematically, we may summarize the activities to be undertaken in our courses as this:

Information Literacy PROCESS	SKILLS TO TEACH	ACTIVITIES
Defining a problem or research topic	Knowledge of the topic	<ul style="list-style-type: none"> <li>• Students describe their topics and also formulate discussion groups for their topics</li> <li>• Course instructor explains the need and importance of defining a problem or research topic</li> <li>• Course instructor demonstrates an example of a topic as a statement</li> <li>• Students are asked to construct different statements on the basis of their topics</li> <li>• Course instructor demonstrates to the students how to formulate questions about their topic</li> <li>• Students do as demonstrated by course instructor focusing on their topics</li> </ul>
	Knowledge of the information need	<ul style="list-style-type: none"> <li>• Course instructor explains a need and the importance of defining information needs</li> <li>• Course instructor discusses with students the information needs</li> </ul>
	Defining the goals for the information seeking process	<ul style="list-style-type: none"> <li>• Finding out from the students their perceptions of the training course and what they expect to achieve</li> <li>• Course instructor explains the need and importance of defining the goals for the information seeking process</li> <li>• Carrying out discussions with the students about their short and long term goals with regard to the information seeking activity</li> </ul>
	Knowledge of the sources/tools to find background information about the topic	<ul style="list-style-type: none"> <li>• Finding out from the students their prior knowledge about previously used sources/tools that would help them familiarize with the topic or research problem</li> <li>• Introducing students to the range of useful tools or sources for the familiarization with the topic such as reference sources</li> <li>• Demonstrating to students the range of useful tools/sources</li> <li>• Course instructor explains to students why it is important to consult sources/tools to find background information about the topic</li> </ul>
	Applying the skills of defining information needs	<ul style="list-style-type: none"> <li>• In their groups the students define what the topic is about</li> <li>• Students determine the purpose for which the information is needed (and the type of information needed)</li> <li>• Students determine the information already known relevant to their questions and establish the information needed/gap (through brainstorming)</li> <li>• Students identify the possible sources to find background information about their topics</li> </ul>
Defining a problem or research topic (cont.)	Terms/words identification when defining a problem or research topic (Mind mapping)	<ul style="list-style-type: none"> <li>• Introducing to students the idea of terms/words identification and demonstrating mind mapping</li> <li>• Demonstrating to students how to use various tools to find relevant terms related to a topic</li> <li>• Course instructor explains to students why it is important to identify terms/ words</li> </ul>

Information Literacy PROCESS	SKILLS TO TEACH	ACTIVITIES
	Organizing terms/words	<ul style="list-style-type: none"> <li>• Introducing students to the idea of organizing terms related to a topic or research problem and the need to do so</li> <li>• Demonstrating briefly to students how to organize their ideas related to a topic or research problem</li> </ul>
	Mind mapping activity	<ul style="list-style-type: none"> <li>• Students identify the terms suitable to their topics using various tools and on the basis of their experience</li> <li>• Students formulate and build vocabularies from terms by finding suitable labels/terms/words</li> <li>• Students draw mind maps on the basis of the chosen topic or research question</li> <li>• Students organize terms/words on the basis of their similarities and differences</li> </ul>
Locating and Accessing Information	Knowledge of the categories of sources of information	<ul style="list-style-type: none"> <li>• Finding out from the students their knowledge of the categories of information sources</li> <li>• Introducing students to the categories of information sources</li> <li>• Demonstrating how to identify/choose information sources</li> </ul>
	Knowledge of location and access tools	<ul style="list-style-type: none"> <li>• Finding out from the students their knowledge upon the search tools</li> <li>• Introducing students to defining a range of search tools</li> <li>• Demonstrating how to identify/describe search tools</li> <li>• Course instructor should explain to students why such tools are used and their importance in the information seeking process</li> </ul>
	Knowledge of the structure of the information sources	<ul style="list-style-type: none"> <li>• Course instructor finds out from the students their knowledge of the information generation and the structure of information sources</li> <li>• Introducing students to how knowledge is generated and organized</li> <li>• Course instructor explains why it is important to know the structure of information sources and how it facilitates the information seeking process</li> </ul>
	Knowledge of information retrieval systems and search strategies	<ul style="list-style-type: none"> <li>• Demonstrating how to formulate search strategies and how to use them in an information retrieval system</li> <li>• Demonstrating how to retrieve information by using various methods and explaining the reasons for developing search strategies and the importance of using different search techniques (narrow, broaden etc.)</li> </ul>
	Affective states associated with location and access	<ul style="list-style-type: none"> <li>• Creating the awareness of the likely confusions and uncertainties during location and access</li> <li>• Emphasizing the need to take a positive problem-solving approach to searching and information retrieval</li> </ul>
	Applying location and access skills	<p>In their groups students should:</p> <ul style="list-style-type: none"> <li>• Identifying major tasks that they experienced during location and access of information</li> <li>• Identifying possible problems when searching, locating and accessing information</li> <li>• Identifying ways of overcoming the obstacles</li> <li>• Course instructor should explain to students why they have to carry out the above activity</li> </ul>

Information Literacy PROCESS	SKILLS TO TEACH	ACTIVITIES
Locating and Accessing Information (cont.)	Information searching and capturing ( <i>continued</i> )	<ul style="list-style-type: none"> <li>• Students continue the information seeking process:</li> <li>• Identifying and familiarizing with the search tool's functionality</li> <li>• Constructing search strategies</li> <li>• Using a variety of search techniques to perform searches</li> <li>• Retrieving and reviewing the results</li> <li>• Refining/modifying searches by either repeating some or all of the above processes or using alternative/related words/terms or sources including people and organizations or strategies/techniques</li> <li>• Capturing and organizing the sources retrieved</li> </ul>
Synthesizing and evaluating information	Ways of capturing Information from sources	<ul style="list-style-type: none"> <li>• Finding out from students how they capture information from sources</li> <li>• Discussing and demonstrating to students various techniques of capturing information from sources (skimming and scanning, reading introductions and conclusions)</li> <li>• Course instructor explains to students why it is important to capture information from sources</li> </ul>
	Knowledge of various techniques of synthesizing information	<ul style="list-style-type: none"> <li>• Course instructor finds out from students their knowledge of synthesizing information</li> <li>• Discussing and demonstrating to students, various techniques of capturing and synthesizing information (developing notes of important concepts, paraphrasing, outlining, summarizing, annotations, using charts, maps, graphs, note cards, note taking sheets, audio and video, databases, spreadsheets, timelines etc)</li> <li>• Course instructor explains why they should know different ways of combining information</li> </ul>
	Knowledge of evaluation criteria of information	<ul style="list-style-type: none"> <li>• Finding out from the students their knowledge of the evaluation criteria for information</li> <li>• Discussing and demonstrating to students various evaluation criteria of information and sources (reliability, validity, accuracy, authority, timeliness, point of view or bias etc)</li> <li>• Course instructor introduces students to various logical fallacies found in educational theory</li> <li>• Course instructor explains why they should know criteria for evaluating information and sources</li> </ul>
	Applying synthesis and evaluation skills	<ul style="list-style-type: none"> <li>• Evaluating information and sources using defined criteria such as reliability, validity, accuracy, authority, timeliness, point of view or bias etc.</li> <li>• Students synthesize information from various sources to get information relevant to their topic</li> <li>• Organizing information in a meaningful way</li> </ul>
Communicating and using information	Knowledge of presentation techniques of information	<ul style="list-style-type: none"> <li>• Finding out from the students their knowledge about information presentation techniques</li> <li>• Discussing with the students and demonstrating different ways of presenting (communicating) information by defining the purpose of information, intended audience, format, product and presentation techniques</li> <li>• Course instructor explains why they should know different ways of</li> </ul>

Information Literacy PROCESS	SKILLS TO TEACH	ACTIVITIES
		presenting information
	Ways of using information	<ul style="list-style-type: none"> <li>• Finding out from students and discussing different ways of using information (listening, seeing, touching) information to get relevant information</li> </ul>
	Reasoning skills in communicating and using information	<ul style="list-style-type: none"> <li>• Introducing to students inductive and deductive reasoning by using examples from a chosen topic (use examples to show how to use data (evidence) to get ideas (information); using examples to show how to use ideas (information) to get evidence to prove a case)</li> <li>• Course instructor explains why it is important to apply reasoning skills in using information</li> </ul>
	Bibliographic citations	<ul style="list-style-type: none"> <li>• Finding out from the students their knowledge of referencing and citing</li> <li>• Discussing with the students various systems of bibliographic citations</li> <li>• Course instructor should explain why they should know different ways of citing and the importance of citing</li> </ul>
	Knowledge of ethical and legal issues of using information	<ul style="list-style-type: none"> <li>• Finding out from the students their knowledge of the ethical and legal issues of using information</li> <li>• Discussing with the students the ethical and legal issues surrounding the effective use of information and information technology</li> <li>• Discussing with the students different laws, regulations and institutional policies related to the access and use of information resources</li> <li>• Course instructor explains the ethical and legal issues of using information</li> </ul>
	Applications of information communicating and use skills	<ul style="list-style-type: none"> <li>• Students prepare presentations that include answers to their research questions and also reflection on the research process</li> </ul>
	Reflective thinking during presenting and using information	<ul style="list-style-type: none"> <li>• Students are asked to reflect on what they have learnt in communicating and using information</li> </ul>
	Preparations for presentations	<ul style="list-style-type: none"> <li>• Students prepare for the overall group presentations</li> </ul>

Students applied this search and retrieved knowledge and, to reinforce this learning, were asked to identify the tasks and processes that they experienced. This fed into the group presentation that consolidated the learning through reflection and discussion.

The presentation was followed by the quiz that covered the following aspects:

- personal particulars;
- knowledge of the Microsoft Windows environment;

- knowledge of Internet Explorer; knowledge of defining a problem or research topic; knowledge of
- information sources and their use;
- knowledge of the library, databases and Web resources; knowledge of evaluating information and sources;
- referencing skills and knowledge of synthesizing and presenting information.

## **Users' perception and conduct**

The courses in information literacy that are being held at our two libraries target several user groups. Directly, they are given to students, and the students may be seen as the primary user group. At the same time, our aim is that also professors should be a secondary user group, in the sense that their students will have learned some skills from the library, and thus be better equipped for the academic challenges. We also think of the university departments as one of our secondary user groups, using a course from the library to provide better learning for their students.

Let us divide the users into these main groups, and look at their perception and conduct.

Students find these courses useful and relevant. In evaluations, they give high marks for relevance, and they also comment upon this when asked, be it written or oral. When asked what they find relevant, the answers cover both the practical tools for finding information (databases, journals, other resources, as well as the new knowledge in searching and evaluating information. Flattering enough for the library and the actual librarian, students also give the library high marks for performance, and for the conception of the course.

One of our discoveries from the students' responses is that the teaching itself, in addition to happening exactly when the students need it, will be regarded as more relevant for the students if it can have their actual tasks as a starting point. Of course, this is no surprise, students also being concerned about how they should make use of their time, but we find it useful to keep in mind when planning the teaching. Practically, it may just mean that we will choose our examples for searching exercises differently from course to course.

Professors (or university teaching staff) will comment upon the new information literacy skills learned by their students and by the change in their work load when they no longer have to use tutorial time to show students how to site and evaluate information. Indirectly, they also show their appreciation by wanting new courses, and sending new groups of students to the library for the courses in information literacy.

Departments do the same, and keep asking for courses to be held in connection with more levels once we get started. We have not experienced any department actively wanting to stop sending their students to the library for information literacy.

## **Conclusions:**

In the area of United Europe, education and research are essential elements for the development of societies.



Quality education implies the acquirement of professional skills in the shortest time and at the highest level. As for higher education, in order to achieve these desiderata, individual study and continuing education are constituents based on information literacy. The information literacy implies joint efforts of the Faculty, Library and Administration.

The Library plays an important part in creating the automated favourable environment, at the level of the demands, in acquiring the informational sources and resources, and the librarian turns into the documentarist professor, into the guide and specialist both in retrieving information, as in developing the users' skills for an efficient use.

The article presents the experience of two university Libraries: one of them situated in a developed country, characterized by tradition and experience in this respect, and the other pertaining to a culture and civilization in the stage of development as for information literacy, characterized by technological steps and by difficulties in changing both professors' and students' mentality.

Both situations make proof that information literacy is necessary to the utmost and that the librarians are the most trained and skilled in approaching it.

The Library of the University of Bergen is provided with state-of-art technology and instruments for the information retrieval. The Library of *Transilvania* University is one step behind, not being provided with the latest technology, self-check etc.

Students all over the world are progress factors and they are eager to master the fields of specialization, of high skills and knowledge.

We deem United Europe and the extraordinary collaboration among the librarians throughout the world are progress factors, and the differences between the various advantaged corners of the globe and the underprivileged areas are based on the absence of financial resources, technology and unfortunately mentality.

## References

1. ALA Editions Offers Electronic Resources and Information Literacy Titles.  
In: *Computers in Libraries*; Jun2006, Vol. 26 Issue 6, p40-40, 1/3p, 1bw  
<http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=20996712&site=ehost-live>  
[cited: 19.04.2007]
2. Chan, Leslie; Costa, Sely. Participation in the global knowledge commons: Challenges and opportunities for research dissemination in developing countries. In: *New Library World*; 2005, Vol. 106 Issue 3/4, p141-163, 23p  
<http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=16991436&site=ehost-live>  
[cited: 29.04.2007]
3. Dawson, Jen; Schatz, Jennifer. Teaching and Marketing Electronic Information Programs A How-To-Do-It Manual for Librarians. In: *Public Libraries*; Jan/Feb2005, Vol. 44 Issue 1, p51-52, 2p  
<http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=16247637&site=ehost-live>  
[cited: 27.04.2007]

4. *The design and implementation of an information literacy training course* – January 2006 – Vol 5 Issue 1  
<http://www.ics.heacademy.ac.uk/italics/vol5-1/pdf/hepworth-evans-final.pdf> [cited: 24.04.2007]
5. Ellis, David; Oldman, Hanna. *The English literature researcher in the age of the Internet*. In: *Journal of Information Science*; 2005, Vol. 31 Issue 1, p29-36, 8p  
<http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=15938134&site=ehost-live>  
[cited: 15.04.2007]
6. Garnes, Kari; Landoy, Ane; Repanovici, Angela (2006) : *Aspects of the Digital Library. Alfheim og Eide akademisk forlag/BORA*. Retrieved from <http://hdl.handle.net/1956/1821> 3. april 2007
7. Information literacy. In: *Wikipedia, the free encyclopedia*  
[http://en.wikipedia.org/wiki/Information\\_literacy#Specific\\_aspects\\_of\\_Information\\_literacy](http://en.wikipedia.org/wiki/Information_literacy#Specific_aspects_of_Information_literacy)  
[cited: 17.04.2007]
8. Information Literacy on the WWW  
<http://www.fiu.edu/~library/ili/iliweb.html> [cited: 18.04.2007 ]
9. *The Information Literacy Competency Standards for Higher Education*  
<http://www.ala.org/acrl/ilcomstan.html>. [cited: 20.04.2007 ]
10. Information literacy: the skills  
<http://www.cilip.org.uk/professionalguidance/informationliteracy/definition/skills.htm>  
[cited: 22.04.2007]
11. Kulthaul, Carol (2004) *Searching Meaning*. Libraries Unlimited, Westport/London
12. Lightman, Harriet; Reingold, Ruth N. *A Collaborative Model for Teaching E-Resources: Northwestern University's Graduate Training Day*.  
portal: *Libraries & the Academy*; Jan2005, Vol. 5 Issue 1, p23-32, 10p  
<http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=16095620&site=ehost-live>  
live [cited: 19.04.2007]
14. Price, Gwyneth. Access to, and use of, electronic resources: progress report on a TQEF project at the Institute of Education, University of London. In: *Education Libraries Journal*; Autumn2004, Vol. 47 Issue 3, p18-22, 5p  
<http://search.ebscohost.com/login.aspx?direct=true&db=lxh&AN=16164580&site=ehost-live>  
[cited: 28.04.2007]
15. A short introduction to information literacy: Professional Guidance, Policy & Research **CILIP (Chartered Institute of Library and Information Professionals)**  
<http://www.cilip.org.uk/default.cilip> [cited: 19.04.2007]

16. Student evaluations: University of Bergen Library fall 2005, spring 2007.
17. Personal communications with professors at the UBL spring 2007.
18. Kavli, Solveig: "Biblioteket som ein pedagogisk arena" 2004. Unpublished manuscript
19. Hafstad,Sissel;Hunskår,Irene,Kavli,Solveig;Mikki,Susanne;Skagen,Therese;Torrås,Maria-Carme (2007) : Søk & Skriv for kursholdere : bibliotekundervisning i høyere utdanning. University of Bergen Library/BORA: <http://hdl.handle.net/1956/2205> [Retrieved 18.04.2007]