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Informationskompetens – generella färdigheter för fördjupat lärande

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Information literacy

– generic skills for specialised learning

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Introduction

Information literacy – the ability to efficiently utilise and critically relate to various information resources – is an important skill in modern society. It is also an increasingly important part of learning in higher education. However, the development of information technology and the increased density of information in society do not only place higher demands on students' general ability to navigate, sort and assess the value of a rapidly growing information flow. The increasing complexity of information also significantly penetrates our core subjects, not least through a growing and progressively complex range of materials. For students, being information literate is thus also an important prerequisite for successful and specialised subject learning.

The purpose of this paper is twofold: 1) to raise questions about the relationship between information literacy as a generic skill and more specific subject-oriented knowledge and abilities; 2) to exemplify and to develop tools that enable lecturers to work with, develop and assess the information literacy of students in a subject-integrated way. A main theme of this presentation is to try to highlight how training in information literacy can encourage and help students gain specialised subject knowledge.

Information literacy – between subject expertise and generic skills

What do we mean by information literacy? What does it mean to be information literate? Today, there is extensive academic literature on the subject, both within the field of library studies and in a broader context of information studies and social sciences (for overviews see e.g. Johnston & Webber 2003; Lloyd 2005; Owusu-Ansah 2005), and it is clear that there is a lack of consensus regarding the meaning of information literacy. The literature includes everything from reductionist notions, where information literacy is reduced to a set of general technical skills, frequently formulated in terms of various computer-related search techniques (see e.g. Lupton et al 2004), to more holistic and constructivist ideas, where information literacy becomes a relational, socially constructed and situated practice; in these conceptions, what it means to be information literate can only be understood in a specific context (see e.g. Lloyd 2005; Limberg et al. 2009). In between, there is a wide spectrum of definitions.

In the present paper, we have adopted the latter, more holistic understanding of the meaning of information literacy, while emphasising the interplay between the traits of general competencies and generic skills associated with the individual that are made visible in more reductionist notions, on the one hand, and the situated practice in which these skills are always included and give meaning to the information in question, on the other. Our starting point is in this respect quite simple and straightforward: information literacy is about the ability to efficiently utilise and critically relate to different information resources in a subject-relevant context. To some extent, it involves acquiring a set of IT skills, such as being well-versed in different types of materials and how to appropriately and efficiently tackle these using different search resources (cf. Lupton et al. 2004; Lloyd 2006). Meanwhile, it is clear that the more detailed meaning of this is constantly determined in a specific context and in relation to a specific subject matter (cf. Limberg et al. 2009). Our academic core subjects and disciplines have, in this regard, partly different traditions as to what type of questions are relevant to ask, what type of material is relevant to use and how best to relate to and evaluate one's material.

In addition, the circumstances vary considerably from one information-related situation to another: what is the purpose of utilising these information resources? Which specific requirements should we satisfy? How are we to assess the information in light of these requirements? Therefore, from our point of view, there is no initially obvious answer as to what information literacy is in a more specific and substantial sense. Being information literate is simply about being able to work

under the circumstances of each case, and in that sense it should be understood precisely as a situational and relational practice (see Lloyd 2005, 2006; Limberg 2009). This also means that we should not view information literacy as external to our traditional core subjects, as "other" or "special"; rather, it is an integral part of both subject matter and subject learning.

In light of this, it seems strange that the work to develop students' information literacy is often conducted separate from the learning of traditional subjects to which our students devote the majority of their university education (cf. Badke 2005). Traditionally, the task of supporting the development of information literacy has been assigned to the activities of our libraries, and performed by librarians who are highly skilled in generic areas but who are not primarily trained in the students' main subjects (apart from their own subject of library studies) (cf. Johnston & Webber, 2003). The training in information literacy has therefore been conducted with little connection to the students' main subjects, and led by persons perceived by the students as having no relation to such subjects.

The problem has been exacerbated by the fact that lecturers in the main subjects have shown little interest in and have been happy to hand over all information literacy-related activities to library staff (Mestre 2001; Badke 2005). Sometimes on good grounds, in the sense that a subject lecturer lacks the expertise that library staff have in this area, but sometimes also for the purpose of safeguarding their own subject, and with the ambition of minimising this type of activity in single-subject courses and programmes: "Our students shall devote their time to specialised subject study, not to inessential things like information literacy". The scepticism encountered among subject heads is partly also an expression of a broader notion about conflict between generic skills in general and specialised subject learning. It is claimed that the generic skills training our students receive is in competition with and at the expense of specialised subject study – i.e. the whole thing is a zero-sum game (cf. Badke 2005).

Against the background of the notion of information literacy as a situated practice, this traditional dichotomy and subject-based scepticism is deeply problematic. The view we want to convey here is rather the opposite: by supporting our students in the development of information literacy, if deliberately pursued and linked to the main subject, we can contribute to specialised subject learning. Thus, we would argue, there is no conflict between the development of generic skills and specialised subject learning; on the contrary, by integrating information literacy into

subject learning, we can support both the development of generic skills and specialised subject learning. In other words, it is a positive-sum game rather than a zero-sum game.

Below, we will present two concrete and, in our view, good examples of how subject lecturers and library staff can work in parallel to develop information literacy and specialised subject learning, in an integrated, situated and mutually supportive way. Both examples are taken from the social sciences field. The first example is from a collaboration on an assessed assignment in political science, where the work on information literacy was seamlessly integrated into the single-subject programme and helped develop the students' subject-specific academic thought and work process. The second example is about active and conscious collaboration on academic writing within the context of a single-subject programme in sociology. The presentation concludes with a reflection on how to assess information literacy in a subject-integrated way, and the assessment criteria that are then relevant, as well as some overall tentative conclusions based on the experience of working with information literacy among students on single-subject study programmes.

Example 1: Research articles – assessed assignment in political science

The following example illustrates how to collaborate easily across professional boundaries to create a rewarding learning situation, while also supporting the development of information literacy and specialised subject learning. The collaboration in question took place within the scope of the level 2 course "Power and Administration" (in Swedish "Makt och förvaltning") in political science at Lund University. The aim was to try to integrate the development of students' information literacy into the regular subject teaching, to support the academic thought and work process.

The collaboration originated from a discussion about the timing of the information literacy component during the semester. The students' motivation to attend this component had at times been low, as many perceived it as an element external to the single-subject programme and without a direct link to any specific assignment on the course. Meanwhile, the subject lecturer requested that the teaching of information literacy would take place prior to the subsequent project course, so that the students would be prepared and able to get started on their projects on time. Also, it had emerged already during the introductory subject course of the semester that there was a considerable need for support in information retrieval and material selection, not least within the

scope of the final assessed assignment, which involved conducting a research overview of a subject that the students themselves had chosen.

The assignment

The final assignment on the course "Power and Administration" specifically involves the students conducting a minor research overview based on the required reading for the course, as well as three self-selected research articles. The aim of this assignment has traditionally been twofold: firstly, the assignment is to serve as an examination for the particular course, and secondly, it is intended to ignite the thought process in preparation for the project taking place later that semester and which usually adheres to the theme of the course subject. The assignment is assessed by the subject lecturer of the course.

Teaching information literacy to support the work on the assignment

To support the work on the assessed assignment, a compulsory course component on information literacy was taught by a librarian. Prior to this, the students were given the assignment by the subject lecturer and were informed that the teaching session with the librarian would include the opportunity for them to search for and select relevant material to use for the work on the assignment.

In practice, the course component consisted of three parts:

1. *What is a research article? – Introduction and exercise*
   The concepts "scientific material" and "popular science material" were clarified in an introductory overview. Particular emphasis was placed on the definition of "scientific material". The students were to reflect on different types of material directly through an exercise in which they, from a selection of five journals, were asked to assess which of these should be considered scientific. The exercise concluded with a joint discussion and feedback.

2. *Where and how can you find scientific material?*
   The next step addressed what the information landscape is like within the subject in question – in this case, political science – and emphasised the importance of choice of search service, relevance assessment and source criticism. In connection with a

demonstration of various search services relevant to the subject, the thought processes were considered and analysed with regard to the choice of suitable keywords and how to construct searches based on these.

3. *Independent information retrieval*
   In connection with the demonstration and review of various search services, the students were given time and opportunity to work with material selection and searches with regard to the topics and the problems that formed the basis of their research overview in the assessed assignment of the single-subject course in question.

Collaborating between different types of expertise and integrating the work on information literacy within the scope of a single-subject course proved to have several benefits:

- *It increased the quality of the assignments.* By providing professional support in the work, and by clarifying the difference between different types of material in conjunction with the written assignment in the main subject, the subject lecturer experienced a clear qualitative improvement in the selection of material.

- *The students' questions were more focused and better addressed.* As a result of the students receiving support to find and assess relevant sources, the students' questions during the subsequent project supervision tended to become more focused. The majority of the supervision could now deal with the actual content of the degree project and less time was needed for discussion about material selection.

- *Increased motivation with a subject-relevant context.* By placing the teaching of information literacy in a context in which there was a directly perceived need for support, and by giving the opportunity to work hands-on on the assignment in question, the students' motivation and commitment increased. The teaching of information literacy was simply placed in a context that demonstrated its relevance and utility in the scientific work process. This was illustrated in an interesting way by the following course evaluation comment, where one student observed that the best thing about the information literacy component was "to have the opportunity to search for articles for my project. Helped me remember and it was actually useful for my own papers".

- *Specialised subject learning through the active search process.* The comment above also indicates that some students attained specialised subject learning through the direct application involved in the course component. In some cases, students were able to find focus and make a clear choice of topic during the actual search and selection process, both with regard to the research overview and the subsequent project.

Example 2: Academic writing in the subject of sociology

As subject lecturers and librarians, we are familiar with how Lund University's policy and most department syllabi require students to be able to refer to sources correctly, critically review texts and write independently. An important educational task is therefore to ensure that students are able to meet these requirements. A problem in this context, however, is that there is often a significant progression gap between students on a course, especially in the first cycle. On level 1 courses, you usually see a mix of completely new students, taking their very first university course and therefore never having written anything in an academic context, and students who have studied several courses and written a lot. A lecturer will thus meet students with very different conditions. Lecturers should therefore start by asking themselves whether the students even know what it means to write academically, and consciously proceed from the assumption that there is a knowledge gap. One way of doing this is to work with and focus on the nature of the academic text and the academic writing process already at an early stage of the learning process.

The following example illustrates how the issue of a knowledge gap when it comes to academic writing among students can be better addressed through collaboration between different types ofexpertise – in this case a collaboration between Terese Anving, doctoral student in sociology, and Ann-Sofie Zettergren, librarian. The collaboration involved a joint teaching session for first-cycle students in sociology. The starting point was the importance of involving both a subject lecturer and a librarian in the teaching session, in order to contribute with, and show to the students, their different types of expertise. The teaching session was arranged as a seminar, where different types of texts and the academic writing process were discussed. The objective of the seminar was to equip the students with the ability to: 1) navigate and make a critical assessment of the current information landscape; 2) compare and evaluate scientific texts and master simple reference

management. In addition, the instructors involved wanted to encourage writing and demystify the writing process.

The seminar was structured as follows:

1. *Introduction*. On the scientific approach and why this is important.

2. *Academic vs. popular science texts*. Based on two texts that were handed out before the seminar, the students, in small groups of approx. 4, were to discuss the following questions:

   - What are the specifically academic/scientific and popular science elements of the two texts?
   - How does the author pursue his/her argument in the two texts?
   - How does the author relate to the researchers and/or the outside world she/he is referring/relating to?
   - How is the author's own voice noticeable in the two texts?
   - What is my own approach, as a fairly new academic writer? What is my writing process like and what experiences do I bring into it?

3. *Academic writing*. Review of reference management as well as various practice examples of when and how to use references.

   - What is distinctive about an academic text?
   - When and how do you reference? Why do references look the way they do? (On uniformity and consistency)
   - The benefit of citing a source. Why is plagiarism problematic?
   - Why do textbooks often lack references while research articles are full of them?
   - Quotes and paraphrases – what do they look like?
   - Different types of reference management – examples of what references look like, focusing especially on the Harvard system (book, chapter and article).

4. *Closing remarks*. Available library resources, such as the Subject Guide in Sociology. Writing as an exercise. Safeguarding your own and others' ideas.

By explicitly addressing issues about academic writing this way, through collaboration between subject representatives and library staff, the following results were achieved:

- According to the subject lecturers on subsequent courses, the students on the level 1 course in sociology have become better at referencing.

- The students ask their lecturers other types of questions. It is clear that they now know more about academic writing and about different types of references. Thus, they are also better able to define their need for further knowledge in the subject.

- The students find it easier to continue to contact the library. They know whom to turn to with different types of questions. As a result of the exchange and collaboration between lecturers and librarians, their respective types of expertise have become clearer, both to the students and to the participating instructors themselves.

- Teaching related to information literacy has become an integral part of the regular subject-based teaching, rather than an isolated component.

Information literacy and examination

As information literacy is becoming an increasingly important part of our subject-specific courses and programmes, it raises the question of how to assess and evaluate such skills. In the vast majority of courses, at least in social sciences, we have explicit learning outcomes concerning information literacy, expressed along the lines of "On completion of the course, the students shall demonstrate the ability to conduct subject-related information searches and assess information". Although the learning outcomes may somewhat differ between subjects and cycles, the general sense of them stays the same. Accordingly, our forms of examination and assessment criteria must enable us to determine whether such learning outcomes have been achieved by each student at the end of the course.

Essentially, you could construct different types of written or practically oriented assignments, in which the students could answer questions regarding different information resources or perform actual information searches. That is, exams aimed specifically at the learning outcomes related to information literacy. From our point of view, however, this approach would be wrong. Since the

very idea is to integrate the work on information literacy into regular subject teaching, as shown by the considerations and examples above, this should also apply to examination.

Consequently, it is about constructing the, if you will, "regular", forms of examination on a course in a way that, together with the other learning outcomes, enable an assessment of whether the outcomes with regard to information literacy have been achieved. In practice, this involves various types of written assignments, which are often used for examination in higher education, but also papers written by students at different levels of the education system. The trick, however, is to find suitable grading criteria in relation to such written assignments – criteria that specifically relate to the learning outcomes concerning information literacy.

We argue that one reasonable approach to this would be, in various ways, to take into account the students' handling of material in their texts. In principle, it is conceivable that in this context, there are, above all, three aspects that can or should be assessed: 1) the right material; 2) sufficient material; 3) reasonable handling of materials. Obviously, these aspects are related to each other and not always easy to separate, but they do, however, indicate slightly different directions in terms of assessment.

1. *The right material*. Has the student used the right – in the sense of meaningful – material in their work? This means that the material retrieved and used must provide a basis for the topic of investigation and support for the conclusions drawn. It is also about whether the student has made a real effort to be at the forefront in terms of materials, and not only used old sources when more recent material is available.

2. *Sufficient material*. Is the student's material sufficient? This means that the student must have gathered the amount of support for their conclusions that is usually required in research contexts. In other words, they must have enough ground to stand on for the conclusions they draw. It is a fairly common problem, at least when it comes to social science papers, that students feel they have presented their results in a correct manner, but the examiner does not think they have sufficient material to fully support their conclusions.

3. *Reasonable handling of materials*. Has the student handled the material reasonably? Although this grading criterion could include a great deal, it undoubtedly constitutes a key component of the situated and relational understanding of the concept of information literacy stated above. It is

simply about making a reasonable and convincing interpretation of the material and information used in the specific context and under the current circumstances.

A few tentative conclusions

By using an explicit and integrative approach to information literacy in subject-specific courses and programmes, we find:

> • that the students attain specialised subject learning while being trained in information management;

> • that it enables us to demystify and support the scientific thought and writing process – a process of which the students often lack understanding;

> • that we achieve higher quality supervision of projects, as the students are given the opportunity and receive help to start their thesis-related search and thought processes at an earlier stage;

> • that students become more motivated in their independent projects;

> • that students are able to recognise different text types and genres in their main subjects;

> • that students receive support in developing a (source-)critical approach;

> • that the students develop an understanding of citation and referencing techniques in the academic writing process and in their main subject.

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