Information literacy progression within the Environmental science program at Linköping University

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Abstract
Since the Environmental Science program at Linköping University started 1998 the author has been liaison librarian. The program is a three-year candidate program with approximately 60 students enrolled per year. Information literacy is of vital importance for the teachers and the students. Collaboration between the liaison librarian, the teachers and the administrator is the fundament.

During the years a curriculum for Information literacy has evolved. The initiative for the evolvement comes from both librarian and teachers. The program consists today of fifteen different parts with education in information literacy with a progression during the three-year program. Special concern is given to progression, learning design, learning environments and quality development.

An important part is appendixes in connection to the student essay. The appendixes consist of reflections on the search of information for the essay in order to make the students more conscious about their Information Literacy processes.

Introduction

Information literacy is important for students, both to improve their studies and for their life outside the university, a life of lifelong learning. During fifteen years a curriculum for information literacy has been developed for students of environmental science by teachers and librarian. The learning design, the environment and the quality development has been in focus. But to achieve deep learning reflection is required as the curriculum make sure. This paper gives an overview of the curriculum and a short background.

Background

The environmental science program at Linköping University started in the autumn 1998. It accepts approximately 60 students per annum. The author of this article has been liaison librarian from the start. The program works with problem based learning and the importance of the students to become information literate is stressed in the program handbook. The liaison librarian covers media acquisition in connection to the program and teaches information literacy to the students. The educational parts from the librarian have compulsory attendance from the students. The student who fails to attend has completion tasks sent to them. The librarian is on the learning platform together with the teachers on all courses and on the program e-mail list.

Learning design

For designing the information literacy curriculum for the students Carol Collier Kuhlthau (2004) has been chosen as foundation. In her work she has the students' needs as a focus point. Another vital part is learning styles. It is of considerable importance to attend to different learning styles; reading, listening, doing. Helen Buckley Woods (2012) writes about planning for different learning styles in connection to Kolb's cycle of learning. In order to meet and to motivate the students the librarian of the program takes the demands of the teachers but also the needs of the students into account when designing the curriculum. The form of learning in small steps and in adapted areas is considered to be more advantageous for the students according to Paul Ramsden (1995).

Learning environments

When new at a university there are many things to attend to. Starting to use the library is one important thing. Most students have a good relationship with the library but some have library anxiety. According to Onwuegbuzie, Jiao and Bostick (2004) one way to minimize library anxiety are to make an easy start. The teachers at the program and the librarian have accordingly decided upon a library program with small steps. The room for information literacy education is also considered important and the librarian meets the student in their computer room the first classes. The library has its resources online and is very movable.

Quality development

The program evaluates the courses continuously and that includes the information literacy parts. One evaluation for year two showed that the students wanted more on how to find terminology and the librarian included this. Project Infolit (2013), driven by Mike Eisenberg and Alison J. Head has interviewed students on their internet and research habits. This material is essential in order to know the "new" students, the students of the digital age.

The outline of the curriculum for Information literacy. Year one.

Introduction

The curriculum for the first year consists of eight parts and starts day one at the program. Together with the program administrator and the study counselor the librarian is introduced to the students. The librarian introduces herself briefly and the teacher stresses the importance of Information literacy and of the library. This gives the students the message that the librarian is an important part of their education. It also gives them a face to relate to. A lot of students are more unsecure than they will admit. This introduction takes about five minutes.

Library tour

During the first week the students takes a tour in the library. There are two reasons for this tour. One is to prevent library anxiety and the other is to meet the librarian more in person. Some students feel at home in a library and some are, if not terrified, a bit scared. This is done to prevent library anxiety and to help the students to study success. Each tour takes about half an hour.

Library catalogues

The following week the education takes place in the students' computer room, not in the library. The aim is to learn about library catalogues, the one of Linköping University library and the national Libris. They search for books, and texts in their literature list. They also use Libris as a filter to find texts on the internet. The librarian has no computer or projector and teaches by walking around telling the students what to do, where to click and what they see. The idea here is to give the students the notion of information strategies. Search where you can expect to find an answer. Each class takes two hours.

Internet and critical eye

The students now know the basics of information searching within the library but they still search the net most. The teachers are concerned about the student's Internet habits and have initiated this step in the curriculum. The education can take place in the library computer room or in the students. The starting point is seven pages on the Internet chosen by the librarian. The education covers critical thinking, net rumors, ownership, search engines and filtering. Each class takes two hours.

Databases

At the end of the first semester the students are educated in how to find articles in databases. This includes the academic publication process and the role of the academic article. They start with the articles in the literature list and move on to find other articles they will need to back up their arguments. The pedagogy is traditional show-tell-try-education and situated in the library computer room. The reference handling tool Refworks is introduced. Linköping University library has an EDS, one search engine for all resources. The education takes a starting point there but other special databases are also introduced. Each class takes two hours.

Lectures on strategies

The lecture about searching strategies is based on the seven pillars of SCONUL (2013), with two examples. First a step by step approach starting with brainstorming on terminology, checking encyclopedias, search books articles etc. The second case based on a newspaper article with the aim to find the sources. These two examples illustrate information searching strategies and make it more realistic for the students. The lecture takes two hours.

Databases again

The approach to the second class about using articles and databases is different from the first in order to adapt to different learning styles. The students are given a hand-in-task and the librarian walks around answering questions. The task is sent in and the librarian gives individual written feedback. The task have five parts; to find articles in four selected databases and add the reference to Refworks; to find a book in Libris and add the reference to Refworks; build a reference by hand in Refworks; add a webpage to Refworks; to find an article via a reference. The title is misspelled so they can't use Google. Their work with all five tasks is to be described in plain text. The class can be either in the library or the computer room. Each class takes two hours, assessment takes ten hours.

Essay

In the end of the first year the students write an essay and together with it a one page appendix reflecting over the search for information for the essay. They have five aspects to cover; strategy/plan; where/which databases, homepages etc.; terminology; results; analyses/how did it turn out. The librarian gives them personal feedback via the learning platform. There is also a

drop-in resource of two hours. The idea of the appendix comes from a teacher and the students regularly reflect over their learning within the program. This is normal to them. The reading and assessing takes about 30 hours.

The outline of the curriculum for Information literacy. Year two.
The intenseness of education in year one leads to fever classes in year two.

Databases
The repetition of databases has the terminology as a theme. A course evaluation showed that the students have problems finding keywords. Each class takes three hours.

Official documents
This class is a short orientation in official document supplies produced by local authority, parliament, government, EU and UN. Each class takes two hours.

Essay
In the end of year two the students also write an essay with an appendix. The difference this year is that the students write in pairs. The reading and assessing take about 15 hours.

Year three
During year three there is a drop-in-lesson connected to the final essay. The librarian also gives a kick-out-lecture about information searching outside the university. The themes are strategies, sources and open access. The lecture takes two hours.

Pros and cons
The most obvious disadvantage is the time. This curriculum takes 74,5+35+2 hours per annum, preparations not counted. The reading of reflections takes 30+15 hours is included. To meet the students this many hours can be considered superfluous. But on the other hand the librarian has few "book-a-librarian" hours. The students show deep knowledge in the information searching process and are good searchers. In the background above several researchers are referred to as warrants for the pedagogical advantages of this curriculum.

Conclusion

To build an information literacy curriculum with high consideration for the students learning possibilities is not only desirable it is also possible. The most significant parts in this curriculum are these;
- Early start, before they have found their (wrong) ways
- Small steps, everything can't be crammed into an hour
- Their arena, a library is mostly digital, get out of the library
- Reflection, opportunity to do their own thinking
- Learning styles, everyone has her own style

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