

# **COLLABORATIVE ASSESSMENT OF INFORMATION LITERACY EDUCATION AT LINKÖPING UNIVERSITY LIBRARY**

**Christina Brage, Eva Sofia Svensson**

*Linköping University Library (SWEDEN)*  
*christina.brage@liu.se, eva.sofia.svensson@liu.se*

## **Abstract**

In this paper we discuss the importance of faculty – librarians working together for the inclusion of information literacy into curriculum in order to prepare students for academic success and future working life.

Keywords: information literacy, assessment, faculty-librarian collaboration.

## **INTRODUCTION**

Linköping University, a two-campus university, offers postgraduate studies and research in more than 100 scientific areas within 17 multidisciplinary departments and around 26 000 students. Interdisciplinarity is a keyword for the university's research, most notably within the Faculty of Arts and Sciences. The university library is divided into five different branch libraries situated in three different cities. All our subject librarians are encouraged to lobby for the inclusion of information literacy concepts into different curriculums since we strongly believe that information literacy enables individuals to engage in all kinds of learning situations using information sources critically in optimal ways. Furthermore we believe that information literacy must be a natural and inclusive part of the educational process and reinforced both within and outside of the educational setting to become the paradigm of lifelong learning [1]. All learners irrespective of educational level at the university need to be taught information literacy skills, both for their current academic program and for future work. In our view information literacy is to be regarded as an umbrella term that incorporates all these components: information seeking and gathering, evaluation of information resources, accurate and appropriate citing and referencing and critical thinking. We are also convinced that information literacy contributes to the empowerment of students as lifelong learners and productive, informed employees.

## **INFORMATION LITERACY: THE CONCEPT**

The definition of the concept Information Literacy leaves us with alternative interpretations, depending on the school of thought, that could lead to different modes of action. Some prefer to define information literacy in terms of a skill and learning tool, others refer to information behaviour or attitude while others talk about study/research skills or how to think critically and some even call it a philosophy (see for instance [2], [3], [4], [5], [6], [7], [8]). In spite of all different interpretations you are still able to find some common ground of goals and competencies but you will of course find a diversity of ideas about what really constitutes information literacy. Although all good intentions to clarify the concept there's still a lot of confusion on how to teach and assess information literacy competencies which could lead to a professional dilemma that result in difficulties of execution. There is a risk that we, both librarians and faculty members, do not grasp the whole picture that includes all the necessary and changing components of the concept as described above.

Sometimes information literacy is seen as practical knowledge, not theoretical, and therefore tends to be devalued at university levels. It appears, according to Langford [9] "to be a gap in the literature between the theory of information literacy and the everyday classroom practice and there is a need to explore how the concept of information literacy could become the natural or the basic practice of both teachers and librarians". Teachers as well as librarians must learn to talk the language of information literacy and there is a need to join forces at the level of course development in order to incorporate information literacy into the curriculum [1], [10]. Information literacy instruction needs to be planned inside academic programmes, not just in response to individual initiatives from faculty or librarians.

It is important to develop curricula in such a way that the students throughout their studies at university get appropriate training on all processes of learning needed to be information literate. Courses need to be created within a context that enables students to pursue their own interests and needs [11]. As Cunningham and Lanning [12] p. 347 so eloquently expresses it: "information literacy is not a destination, but a journey – and the very key to lifelong learning".

The importance of information literacy and learning how to learn should lead the partnership between teachers/faculty and librarians [13] since both sides can contribute to these skills in a mutually reinforcing manner. Through this collaboration it may become possible to build even better relationships with students and give them a richer learning environment [14].

## **ASSESSMENT**

Assessments are of great importance in education, especially in higher education. Everyone involved in the process of education, in one way or another, is affected by the outcome of the assessments. However, assessments should not be viewed as a system that merely allows teachers to, as Ramsden [15], p. 183 puts it: "define, select, classify, motivate and report on students". Learning only for the assessment promotes in most cases just surface learning. Students need to have the opportunity to learn by discovery in order to be prepared for lifelong learning and active citizenship. If universities want to develop the student's cognitive skills and competencies they must choose an assessment method that realistically represent real-world situations likely to be encountered in daily life [16]. Constructive alignment is such an assessment method that could be described as the marriage between constructivism and instructional design in order to assure that assessment is linked to learning outcomes and teaching and learning activities [17]. True assessment of information literacy, whatever assessment method used, cannot be taught or measured by librarians alone; rather, it needs to be assessed as part of the entire educational process [2].

## **ASSESSMENT OF INFORMATION LITERACY SKILLS**

In the literature there are a rich plethora of articles that provide examples on how to assess information literacy and which assessment methodology to use, see for example [18], [19], [20], [21], [22], [23], [24]. In 2009 Gross [25] compared different types of assessment methods and the same year Oakleaf [26] presented a model for information literacy assessment. Oakleaf [27] also suggested the use of rubrics in the assessment procedure while portfolio assessment was suggested by Scharf, Elliot and Huey [28] and assessment through online survey was described by Kuhn and Edwards-Miller [29]. When teaching information literacy we must determine the effectiveness of the learning activities employed and the real outcomes of our work [11] hence the assessment procedures at Linköping University Library. For information literacy programs to be successful, assessment of students learning outcomes is essential [30].

In authentic assessment students are presented to real-world challenges that require them to apply their relevant skills and knowledge [31]), which is the case with the medical students and the master students assessment presented below. The use of real cases is central because individuals learn from acting in authentic contexts [11]. The case may either illustrate a point or serve as a basic reference point, and students should be able to employ their knowledge and practice in ways that enable them to make a connection between the curriculum and real-world demands, and test their abilities in meaningful work-related contexts [11]. In this way the students acquire information literacy skills as they work on their academic tasks.

The assessment methods that Linköping University Library uses have developed during the years through the cooperation between the library and staff from different faculties and naturally through inspiration from the literature. We also try to link our assessment tools to our learning outcomes according to the Bologna process.

## **PROBLEM-BASED LEARNING (PBL) AND INFORMATION LITERACY**

Knowles [32] defined PBL as a process in which learners take the initiative to define their learning needs, formulate goals, identify needed resources for learning, select and implement learning

strategies, and evaluate the results. PBL have a strong focus on self-directed learning, a learning that takes place in the context of solving real-world problems. Students need this kind of learning otherwise they will not be able to gain an independent awareness of available information resources and how to access, evaluate and use them in order to be prepared for real-life situations they will encounter in future working life. Students need to understand how their information literate skills can be applied to work situations and therefore “transferability is the essence of information literacy” (Breivik & Gee, [33] p. 47).

Faculties who have embraced PBL usually consider information literacy as a natural ingredient and through their information literacy skills the students are able to determine what they know and do not know. To succeed they need to plan what steps to take in acquiring, evaluating and using information in order to solve a problem. They also need to be able to both select and reject information, to identify and take account of biased information and to decide whether information from a particular source can be seen as authoritative or not. Therefore it is easy to state that there are a lot of the similarities between the goals of PBL and information literacy education. In order to achieve a high-quality PBL experience, a true collaboration of efforts needs to take place between the faculty and the librarian. For information literacy to be enhanced, collaboration between teaching faculty and librarians must be fostered in meaningful ways and have a clear common focus in order to succeed.

## **BRIEF OVERVIEW OF RECENT LITERATURE ON FACULTY-LIBRARIAN COLLABORATION**

There is a growing body of international literature explaining and presenting cases on how successful collaboration between faculty and librarian can turn out. We can find articles on how to infuse information literacy into assignments [34], [35], [36] and how to grade various library exercises [37] or how faculty and librarians jointly analyze student writing including bibliographies [38], [39]. Further on there are plenty articles describing collaborative design and implementation of information literacy training [40], [41], [42], [43], [44], [45] and the implementation of educational modules including information literacy [46]. The importance of collaboration for information literacy initiatives [47] and information literacy as a fundamental piece of the curriculum [48], [49] is well described. These articles clearly indicate the importance of collaboration between faculty and librarians in integrating information literacy into the curriculum. There are some articles dealing with pedagogical collaboration e.g. [50] and librarians as co-instructors [51]. In 2009 Donald [52] described a formula for librarian-faculty collaborations and Oldham and Skorina [53] the same year demonstrated the value of collaborative efforts. Issues on how to jointly deal with plagiarism was described by Sciammarella in 2009 [54]. Online course development [55], [56], [57] as well as information literacy learning outcomes [58] is well documented. Last but not least Gaspar and Wetzel [59] discussed institutionalized collaboration between librarians and writing professors.

## **FACULTY-LIBRARIAN COLLABORATION**

There are some pedagogical changes that have been going on for some time at our universities. We are more and more moving towards a student-centered learning philosophy and practice and there is a shift to a more resource-based teaching in which students are responsible for their own learning at all levels.

Before the entrance of the Internet many librarians had in many ways the role of a gatekeeper and also a provider of information from the databases. But students of today are not so dependent on help from the librarians in order to access information and therefore has the role of the librarian changed. There is a shift from providing answers to asking questions that help students stay focused on the problem.

There is also major challenge for faculty today especially with the impact of internet on how students approach their learning. Almost everyone in the fortunate world, even faculty, is now using electronic resources outside of the library. But there is a difference because faculty, in most cases, knows how to judge the quality of the information which students not always have the skills to do. According to Breivik and Gee [60] p. 27: “Faculty need to accept the fact that students are largely motivated by the ease of access and time-saving aspects of the Internet, rather than doing good research, and faculty need to assume responsibility for structuring learning assignments that require quality research efforts.

Librarians can be effective partners with faculty in accomplishing this". Breivik and Gee [60] also stated that the number of educational leaders who envision libraries as critical resources in achieving desired student learning outcomes has increased and been articulated.

In the educational sector, curriculum integration is the major issue for a lot of people interested in information literacy [14]. In order to sustain integration of information literacy into the university curriculum, librarians and faculty jointly need to investigate theories of change. Information literacy instruction needs to be planned inside academic programmes, not just in response to individual initiatives. As librarians we need to become more vocal and more involved with the educational process as a whole in order to foster change especially with regards to the teaching of information literacy. Librarians have new opportunities to play a powerful, dynamic role in collaboratively designing and developing the contexts for learning strategies with academic staff to provide support for new learning approaches and for developing independent learners. But the success of the librarian in working effectively with academic staff to promote self-directed learning depends not only upon the academics' attitudes towards teaching and learning, but also on the culture of the departments in which the staff and students work [61]. There is a need for an attitudinal change on how we as librarians perceive our role as information literacy advocates or instructors and how faculty/teachers acknowledge our educational role. But we also have to consider that librarians occasionally have their own pedagogical discourses that may prevent collaboration with faculty.

Some universities go beyond the stand-alone information literacy course by integrating information literacy into the overall curriculum [1], [11]. This requires collaboration between the library, the faculty, and administration. In these situations, librarians, faculty and others work together to provide information literacy instructions at the point of need because information literacy in a vacuum does not work [10]. Such courses have gained popularity because they offer opportunities for in-depth instruction and reinforcement of research skills through course activities [62]). It is important though to remember, as stated by Mendrinós [63], p 12. that: "the teacher and the instructional librarian are the guides and facilitators, but the student is in charge of the learning, making use of available resources to solve problems".

## **FACULTY-LIBRARIAN COLLABORATION AT LINKÖPING UNIVERSITY LIBRARY**

We would like to present and discuss two out of many successful implementations of information literacy education and assessment procedures into curriculum at different educational levels. Firstly we would like to present how we assess medical students' information literacy skills and how this is done in cooperation with university professors at the medical faculty. The key concept to this successful implementation is problem-based learning and a faculty that believes in the total integration of the library into the curriculum.

When this collaboration started, already in the mid 80s', the students were presented to different real-world cases that they themselves collected from meeting patients at different health care centres. The students had to interview the patient and then formulate a clinical case. The students had only a few hours to solve the problem. The solution to the problem was presented and examined the next day. After some years this examination ended due to the fact that it was considered to time and staff consuming. Over the years the assessment procedures has developed and nowadays the cases are still fetched from the real world but not directly from meeting patients at the health care centers. Careful and thoughtful work is needed here to ensure that the cases presented to the students require high level thinking skills and that the cases will challenge the students and engage their interest and curiosity. The students work with their cases for one week and then they have to explain and defend their information seeking procedures and what they have done in order to solve the problem. The librarian and the university professor assess the students through qualitative interviews (approximately 30 min) and the questions asked revolve around e. g. sources; are they reliable or trustworthy; are they likely to be accurate; are they timely; the likelihood of bias; authority of the authors and also that conclusions are based on supporting evidence. At the moment 6 librarians and 10-15 faculty teachers are involved in the assessment procedure. The partnership between the university professors and the librarians here is the partnership of the subject expertise and the information expertise with an approach to research that are complementary.

Secondly we would like to present another successful integration of the library into an international master's degree program for sustainable development. A program that for some time had noticed a cultural clash regarding different academic styles and that this in some cases ended in severe plagiarism. There were other problems as well such as grammatical and spelling mistakes and bad citing and referencing. We also noticed an over-confidence in non-authoritative resources collected from the Internet and this was probably due to the lack of proper critical thinking skills or the fact that students do ignore the structure of scholarly information or not understand the importance of using scholarly sources in research papers. The program director together with the librarian and a university professor thought that with enhanced training and assessment of the information seeking process these kinds of errors would decrease. The group began to analyze existing course syllabi in order to infuse information literacy training and continued thereafter to develop information literacy learning outcomes for some courses. We believed that if students acquire just basic information skills they can begin to frame questions and find information from reliable sources that will provide an answer to those questions. Furthermore they will be able to sort and act upon the information gathered. In this program the librarian now teaches basic and advanced information literacy skills, academic writing, citing and referencing and how to avoid plagiarism according to Swedish academic style and standards. The librarian also assess the information seeking process in papers and essays written by the students and report grades to the university professor who finally decides if the students pass or fail. Therefore the grade for information literacy skills is incorporated into the course grade. One of the key concepts here is that the librarian's office is situated at the institution and that she is actively involved in the department's research and teaching.

In both cases faculty and librarians are working together towards a learning that is based on real-world information resources although the execution might differ a bit. Teamwork is needed so that information literacy can become part of the learning process.

## CONCLUSIONS

We found that information literacy education that included reality-based scenarios, like the case with the medical students, and case-based teaching/ learning can be very successful in helping the students develop and practice their newfound skills through a learning-by-doing approach. The learning then is contextualised because real life problems or assignments are presented in a way that the learner find meaningful and relevant. We think that students are more able to acquire knowledge when they connect what they are learning to the real world.

Through our collaborative efforts we were able to see improvements in the students' papers regarding citing and referencing and also the range of quality resources used and cited. For the master's program we were able to see less cases of plagiarism. Further on we saw improvements in the way students defended their arguments in the papers, arguments that was built upon and supported by previous and their own research. Overall the students showed a higher degree of independence when conducting research and they were more self-propelling in their activities. We also noticed that the students were more engaged in their own learning process showing more curiosity and interest in the topic than before. Some students also showed an appreciation of the information literacy training and saw the benefits for future working life situations.

Although these good collaborative efforts we still have to reflect upon and improve our practice in order for us to ensure that students enter the workforce with information literacy and lifelong learning skills.

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