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Author(s): Asplund, Janika; Mwiiyale, Jakobina; Karsten, Siegfriede; Tapio, Saija
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DEVELOPING INFORMATION LITERACY EDUCATION FOR FIRST-YEAR STUDENTS AT TWO UNIVERSITIES

I. Introduction

Information literacy (IL) is considered to be an important part of the skills acquired by university students during their studies, and university libraries have developed their instruction to help students achieve this.

Tampere University (UTA) Library follows the national IL recommendation (See Recommendation for Universities) in its teaching. In the recent curricula change of the University the Teaching council stipulated IL as a compulsory subject for all students of UTA. All UTA students now have equal opportunities for IL education during different phases of their studies. This has entailed modifying an existing IL course into one more suitable for teaching larger numbers of students. Information specialists of the Library have also participated in university pedagogy training, which has served to strengthen the theoretical basis of their own work and also occasioned substantial changes in the course.

The University of Namibia (UNAM) Library is in the process of developing and harmonizing their IL education. Since Finland is

regarded as one of the leading countries in IL matters (UNESCO 2005, cited in Walton & Hepworth 2011), we wanted to share our experiences of developing IL education and thus contribute to the knowledge base of academic libraries, and more specifically to see if there was something useful to be learned from the experiences of UTA Library's development of an IL course for first-year students.

In this chapter we introduce the IL course for first-year students at UTA and the teamwork model we used to develop it. As a theoretical framework, we found it especially useful to apply the principles of constructive alignment in our pedagogical developments in IL education. We also discuss whether some of the content and teaching methods of this course could be applied to the present Namibian academic context.

2. Literature review

Constructive alignment in higher education

In viewing Biggs' theory on constructive alignment, two main concepts need to be clarified: alignment and the constructivist definition of learning. In Biggs' theory, alignment refers to what the teacher does: sets up a learning environment that supports the learning activities appropriate for achieving the desired learning outcomes (Biggs 1996, 347). Alignment model refers to planning the course, choosing the teaching methods, implementing the course and choosing assessment methods so that they are aligned and work towards the same goal.

According to the constructivist definition, learning is constructed as a result of the learner's actions. The student is not merely a passive recipient of information but rather assumes an active role as a learner (see Richardson 2005, 675). What needs to be focused on are student activities and students' construction of meaning (Biggs 1996; Biggs

2003). Adult learning is always cumulative; new information is constructed on what you already know (Biggs 1996, 348).

Biggs combines these two ideas, constructivism and aligned model of teaching:

”Constructive alignment’ represents a marriage of the two thrusts, constructivism being used as a framework to guide decision-making at all stages in instructional design: in deriving curriculum objectives in terms of performances that represent a suitably high cognitive level, in deciding teaching/learning activities judged to elicit those performances, and to assess and summatively report student performance.” (Biggs 1996, 347.)

According to Biggs, creating a study module involves four phases. First, defining the intended learning outcomes. The formulation of a good learning outcome includes a verb describing what the learner is expected to be able to do by the end of the course. Teachers should also be very clear about what they want students to learn. Secondly, creating a learning environment using teaching/learning activities that are likely to bring about the desired outcome. Thirdly assessing students’ actual learning outcomes. Finally, comes arriving at a final grade. (Biggs 1996, 360–361.)

Information literacy: more than technical skills

Learning is not just about acquiring and adopting information content, remembering and managing pieces of factual information. It is also about understanding the meaning of things as an interpretative process, learning the attitude and growing as a person. (Marton & Dall’Alba & Beaty 1993.) Learning is also affective, meaning gaining the self-confidence to act. This aspect is important to keep in mind, because IL teachers should support the student on both the cognitive

and affective levels (Iivonen & Tevaniemi & Toivonen 2007). A third component can be added to the learning process: regulative learning activities. It means planning, monitoring and evaluating your own processes. (Vermunt & Verloop 1999, 259.)

Information literacy is not merely a technical skill, and teaching it is not just about presenting the finer points of various electronic databases; it needs to be appreciated in a wider context. As Albrecht and Baron (2004) point out: “Rather, librarians now find themselves in the position of bolstering the larger academic mission [of the university] to hone critical thinking skills and help students build a foundation for lifelong learning.” (Albrecht & Baron 2004, 76.) They also define this as a shift in library training: “The emphasis has moved from information provision and point of need training to the acquisition of skills that are more lasting.” (Albrecht & Baron 2004, 76.)

The more lasting skills are also emphasized by Walton and Hepworth (2011), who conducted a study of changes in learners’ cognitive states. They say that at the end of the session the intended learning outcome is that the student is able to transfer the searching skills to other appropriate resources (Walton & Hepworth 2011, 455).

Teaching information literacy to first-year students

Various studies have addressed first-year students’ information behaviour and library use. Scoyoc (2003) points out that library instruction is needed for first-year students, since starting college studies is an overwhelming experience for many: they feel uncomfortable with everything new surrounding them, and even experience library anxiety when first coming to university library. According to her, face-to-face instruction reduces library anxiety more effectively than a computer-based tutorial, where students read and learn things by themselves. (Scoyoc 2003, 329,337.)

First-year students moreover often tend to overestimate their own IL skills. A study conducted by Gross and Latham (2012) gives an example of college students' miscalibration between self-views of skill and actual skills in pre-test and post-test situations. They claim: "Post-test estimates of performance by proficient students demonstrated a stronger correction in self-estimates than was demonstrated by below-proficient students." Some students do not even realize they have performed poorly. The findings of their study confirm the need for IL education for first year students. (Gross & Latham 2012, 581.)

Ellis and Salisbury (2004) say that it is important to ascertain what first year students already know and build upon their prior knowledge. Before beginning library instruction, students have problems interpreting reading lists and, for example, finding book chapters or journal articles in library databases.

Nowadays students also have a tendency to use Google as their starting point. Corbett (2010) says that searching via Google forms a "mental model" for them. They should be taught what is different and what is similar about searching in Google and in the databases provided by the library. The conceptual idea behind Boolean logic also needs to be explained, not only the technique. (Corbett 2010.)

Fain (2011) evaluated the effectiveness of an information literacy programme for first-year students and argues: "[...] students showed statistically significant changes on questions that dealt with resources or services that they were required to utilize as part of their research assignment." (Fain 2011, 113.) She also claims that first-year students preferred electronic journals over printed ones in class assignments (Fain 2011, 116).

In the information literacy model GeST developed by Lupton and Bruce (2010), IL is viewed through three windows: the generic, where information literacy is seen as a set of skills used to find and manage information, the situated, where the information skills are more contextualised and discipline specific/based, and the transformative, where information literacy is something used to transform the

learner and society. The different windows are not incompatible with each other; the transformative window also includes the situated and generic ones, and the situated includes the generic window. (Lupton & Bruce 2010, 14–15.)

Nevgi and Lindblom-Ylänne emphasize the qualitative perception of learning: When students learn new information, the information they have absorbed earlier is also evolved into more multilayered and more comprehensive understanding (Nevgi & Lindblom-Ylänne 2009, 149).

3. The UTA Library case: Basics of Information Seeking

Introduction to the course

IL education is compulsory for all the first year students of UTA. The University consists of 11 Schools and the course in question is obligatory for students in four of these: the School of Information Sciences, the School of Management, the School of Social Sciences and Humanities and the School of Communication, Media and Theatre.

Basics of Information Seeking (BIS) is a compulsory 1 ECTS credit course graded pass/fail. The course consists of 7 hours of contact teaching (1 hour lecture, 3 x 2 hours of hands-on-keyboard sessions in the teaching lab), and the students have weekly online assignments in information seeking, as well as reading tasks of the online learning material. The course takes four weeks.

We have chosen our teaching methods mindful of the alignment principle. We use a variety of methods to enable deep learning. The initial lecture covers the information seeking process as a whole and the ground rules are explained to the students clarifying what is expected of them to pass the course. The three hands-on-keyboard

teaching sessions are held in a computer lab. When the teacher is demonstrating the use of databases, the students can look at the screen and follow using their computers. During the sessions there are group discussion tasks e.g. how to evaluate scientific literature, how to differentiate between a popular journal and a scholarly journal and the ethical use of information.

We believe that “learning by doing” is the way to acquire information literacy. We therefore set the students assignments, as these encourage the students to take a more active role. The quality of learning has also been shown to be better in assignment-based courses (Gibbs & Simpson 2004–2005, 7). Towards the end of the session the students start working on their assignment and they are expected to finish them online at home. The teacher also comments on the common mistakes at the beginning of the next session and repeats the core points if something seems unclear. The online tutorial is likewise intended to support the students even after the course. The course includes an active feedback form encouraging the students to reflect on their learning process and supporting the students’ learning.

The team work model

Our aim is that all our teaching sessions on the Basics of Information Seeking (BIS) course are of even quality and meet the quality requirements. To ensure this we implement a team work model. The IL coordinator and team of information specialist create a general manuscript for the whole course, individual sessions and assignments, as well as mutual learning objectives. Each of the information specialists is then responsible for modifying the teacher’s manuscripts slightly to fit the disciplines’ needs. The assignments are renewed annually. The materials are handed to the teaching librarians, coming from different library positions, and they are committed to familiarize with them before instruction takes place.

Teamwork is the key to success, with well defined responsibilities and timetables. The IL coordinator is responsible for giving the opening lectures, reserving teaching labs and lecture halls, as well as training any new teachers. The coordinator collaborates with the library management and faculty administration on the curricula and timing issues, and with the university learning technology and library web service staff on the technical solutions for online assignments, signing up, feedback forms and the online tutorial. It is also important to communicate with the library acquisition staff to find out changes in subscriptions of library-licensed resources.

The coordinator organizes a meeting for everyone involved in teaching BIS before the course starts to set the ground rules, and also after the course to reflect the students' feedback to see whether the learning objectives have been achieved. The teaching experiences of the teacher librarians are also discussed.

The impact of university pedagogy training on IL education

Nearly all information specialists of UTA Library have attended the Basics of University Pedagogy course and some have attended the Advanced University Pedagogy course. Participating leads to professional growth in the sense of professional self-reflection: university pedagogy training makes university teachers more aware of their approach to teaching and of their teaching methods as well (Postareff & Lindblom-Ylänne & Nevgi 2007, 567). Teaching in higher education is affected by the conception of teaching we have, whether it is teacher-centred and content-oriented or student-centred and learning oriented (see Richardson 2005, 677). In UTA Library we have tried to move towards student centred teaching methods.

Two information specialists working in the Main Library attended the Basics of University Pedagogy course in the academic year 2007–2008. This had an impact on the overall development of IL

education in the Main Library. There were many concrete changes and developments in the Basics of Information Seeking course to make our IL education more student-centred and constructively aligned and to find the most appropriate teaching methods for the course (see Tevaniemi & Valovirta & Tiitinen 2009).

In planning the course a thorough core content analysis was made to define the core information content for each teaching session and for the course as a whole. Learning objectives were determined with more detail for each teaching session and for the course as a whole, which also helped the teaching librarians to understand the main points they were required to deliver. Transparency is very important in course design, for both students and teachers.

We tried to be student- and learning-centred in selecting teaching methods and delivering the education. Earlier the students found it difficult to see the course as a whole and understand the relevance of IL skills to their studies in the different phases of their academic career. Therefore, a picture representing the course content was added to the website and the course content, learning objectives and the requirements to pass the course were explained to the students in first session/lecture. Learning objectives for each week were presented at the beginning and repeated at the end of each session.

The assignments were also designed to be more student-centred. The students were encouraged to conduct searches on their own topics related to their disciplines and asked to compare information resources in their own research fields. If the students see the teaching/course as meaningful for their studies it motivates them and encourages deep learning (Biggs 2003, 16). We also gave the students brief written feedback on the assignments, since “[...] frequent assignments and detailed (written) feedback are central to student learning” (Gibbs & Simpson 2004–2005, 8).

Group discussions were added to the sessions (e.g. on analysing differences between academic journals and popular journals, ethics in

information use). A peer assessment task was also added (the students compared notes on their subject terms on the chosen topic).

Moreover, to ascertain the effectiveness of the group work method as a teaching or learning method, we piloted a comparison of regular groups and group work groups in 2008. Group work learning methods were used extensively in the latter groups. In the pilot, the teachers found that the group discussion method worked really well in some areas, such as discussing ethics in using information. However, teaching and guiding team work tends to be more demanding for teachers. (Tevaniemi et al. 2009.) Although piloting required extra work from the information specialists in planning and teaching, the results were effectively used to develop our IL education, and some of the group work elements were merged into the regular groups the following year. The combination of group work and regular teaching methods resulted in the most consistent learning results among the students (Tiitinen 2011).

We also paid attention to assessment methods. Self-assessment tasks were added to all weekly assignments with the final question: “What is the most important thing you have learned today?” (Inspired by Biggs 1995, 355). A peer assessment task was added to the class (the students evaluating subject terms on the chosen topic). The teachers also gave their students collective feedback during the course, not only at the end (on giving feedback during the course see Gibbs & Simpson 2004–2005, 8–9).

Feedback on the course had been previously collected as part of the quality system of the Library. However, due to lessons learned on the University Pedagogy course, we revised the feedback forms to reflect the learning objectives of the course, and changed wordings to measure student learning and student contribution, not only the teachers’ or library’s performance. We added questions such as: “What are the three most important things you have learned during the course? How would you assess the importance of your activity and

contribution with regard to your learning process? and How did the working methods used in the course support your learning?”

In the feedback forms, the students are asked to evaluate their IL skills after the course in areas such as finding books on a specific topic, finding e-journals in their research field and finding international research articles on a certain topic. They are also asked to grade their overall IL skills before and after having attended the course. Most students assess that their skills have improved during the course.

One might question the value of students' self-assessment. Gibbs and Simpson have an answer to this: “Much of the literature on the use of self- and peer-assessment is about the reliability of such marking, and assumes that self- and peer-assessment is primarily a labour-saving device. But the real value may lie in students internalizing the standards expected so that they can supervise themselves and improve the quality of their own assignments prior to submitting them.” (Gibbs & Simpson 2004–2005, 20.) When asking the students to assess their learning process in both weekly assignments and course feedback we help them to internalize the standards and take responsibility for their own learning.

As a more general result of the university pedagogy course, we have paid extra attention to the self-reflection of the teachers and of those planning the teaching. To improve and ensure the overall quality, we organize a meeting before and after the course. The reflective meeting offers us a forum to discuss course feedback from the students and the teaching librarians.

Recent changes in the course and plans for the future

From 2005 until 2011 the Basics of Information Seeking (BIS) course consisted of 11 teaching hours and carried 2 ECTS credits. In 2012 as part of the curricular reform of the University, it was reduced to 7 hours and 1 ECTS credit. The course is now compulsory for more

students than before. Due to the reduced teaching hours, the core content analysis was rerun to make sure that we still teach all the relevant content but do not cram the sessions too full. As Nevgi and Lindblom-Ylänne (2009, 146) say, the emphasis must be on teaching the core content, and only if there is time left can complimentary or specialized content be taught. They also say that core content analysis is crucial to make the workload suitable for the students.

During spring 2012, the BIS course team first created a general template for the course, sessions and exercises. Each information specialist was then responsible for their own unit's detailed teaching manuscript and the exercises for their unit. The first session is dedicated to introducing the library database, the union catalogue for Finnish university libraries and Finnish article databases. The second one introduces international electronic journal databases and reference databases and the third e-books and electronic reference works.

During the course we also teach the process of information seeking, from planning the search and conceptual analysis, practising search strategies and evaluating search results to using information in an ethical manner. In each session we pay attention to some of these points. Due to the reduced teaching hours, we include complementary teaching material in the online tutorial that students can read during and after the course as recommended by Blanchett et al. (2012, 117). This is consonant with the fact that the students are responsible for their own learning even after the course. Since we have had encouraging experiences of students' self-assessment questions in the assignments, we have retained them in the programme.

Sometimes a teacher is tempted to add more and more content to a course she has taught for many years, especially if she is an expert in the field and conversant with the content (Nevgi & Lindblom-Ylänne 2009, 144–146). This is also true of the BIS course. Every year we must ensure that if we add new content we also take something out. We must not “show off” everything we know, because that would be confusing for the students; we must be content with the basics.

When teaching large numbers of students there is sometimes a clash of pedagogical principles and practical realities and we need to compromise. Gibbs and Simpson say (2004, 10) “writing comments on assignments, however, remains a major component of teachers’ workload in higher education” and this also applies to us. As a result of feedback from the teaching librarians, we have made the workload lighter for them; instead of marking the assignments thoroughly, we decided to give the students collective feedback at the beginning of each session.

Giving feedback to the students during the course is needed because it supports their learning and motivates them, but we try to do it in a way that does not burden the teachers. Currently we also pay attention to giving the students encouragement so they feel empowered after having attended the course. This kind of generic feedback can be given along with the collective feedback on the assignments.

A library tour is no longer on the course programme. Instead, we have created a virtual tour of the library with the social media tool Flickr, with important spots and functions in the library presented in pictures and explained in texts. We do still offer library tours at the beginning of the semester but participation is voluntary. Creating the virtual library tour takes time, but saves staff resources in the long run.

Every year the BIS course also entails a huge administrative effort to organize everything. In the future it will be interesting to compare the student feedback with that of earlier years. Using the teacher’s diary as a professional reflective method (see Biggs 1996, 355) could be useful in the future.

4. First-year students at the University of Namibia Library

The current situation in IL education

At the beginning of the year, the Dean of Students organizes the academic orientation for new students, and the Library is given a “slot” to address students on a specific topic and two hours for a library orientation/tour. The Library being part of the official academic orientation programme plays a major role in the students’ minds as they become aware of the importance of the Library.

Representatives of the respective faculties bring students to the Library. Library staff members orient new students by faculty. It only takes about 10–15 minutes to go through the library building and staff members explain the library registration process, opening hours, library rules and regulations, the type of services, facilities and the resources available. This is a mere tour with little interaction to convey information to students and sometimes very congested due to some faculties having more students than others. During the orientation, students are informed about the in-depth IL classes which will be arranged with their lecturers.

In mid-March, subject librarians liaise with teaching academics requesting them to book IL classes using the library training lab. Since there is no formal IL programme or model to be followed, each subject librarian teaches students what she thinks is important. This includes searching for books using OPAC, how to search for journals, how to use the Internet etc.

Some lecturers sacrifice their teaching slot on a timetable or in some cases, they send students when they themselves are not available. This is not hands-on-keyboard training, because the training lab only accommodates up to 25 computers. No assessment is done, only a registration form is filled (for reporting and record keeping). There is no uniformity in what subject librarians teach and it also depends on how active one is.

Comparison of the Namibian model to the Tampere model

A large number of students enter UNAM without prior knowledge of what a library is and how to operate a computer. One of the reasons is that they may have completed their high school education in remote rural areas where there are no computers available (nor indeed access to electricity) or even a functioning school library. Some schools, especially private schools and some schools in urban areas, offer a library skills subject called Basic Information Science.

Given such a situation, the University makes computer literacy a prerequisite or core subject for all first-year students (this applies to those without computer literacy background). Therefore, the IL education for first-year students should be very basic content wise. The information seeking processes and ethics in using information should be emphasised. Some of the content existing in the Tampere model could be taught later on. The supportive element and reducing library anxiety is important in the Namibian context. A library tour is needed, but it could be renewed with activating elements.

When viewing existing teaching materials similarities are apparent between the UNAM and UTA Libraries: Library catalogue, subject terms and ethics of using information are taught fairly similarly. However, some emphasis could be given to planning search queries and electronic resources, to reflect the recent acquisitions of electronic journals and e-books in the UNAM Library. There are some differences in timing issues as to the content of the teaching. Some of the content in the UTA model could be taught later on to Namibian students, including more elaborate searches in e-journal databases, subject term searches in e-journals, peer reviewed journals etc.

However, exercises need to be completed in a classroom, since not all students have a computer at home. At present completing online assignments is not feasible because most of the students are still experiencing problems using online for practice but maybe in the future this method could work.

Interactive teaching methods will work well for the Namibian students because they provide the students with an opportunity to learn from the discussion. It can boost their confidence, especially when they learn from one another, are able to share experiences and also assist each other. Students usually like to learn from their peers (Biggs 2003, 111). Currently there is a growing number of students who own or use laptops. We are able to create tutorials, and videos demonstrating how to perform a task or search, and group work will help users to learn fast.

The team work model in planning teaching could provide opportunities to share experiences and ensure even quality and provide systematic learning objectives for each level course. It might be a good idea to create an assessment form in order to reflect upon the effectiveness of the course. There is also a possibility to pilot a teaching module and use it to demonstrate the need for an IL programme for the University administration. A credited course with multiple teaching sessions would motivate the students to work harder.

5. Conclusion

We believe that information seeking needs to be taught gradually in universities, first the basic, generic skills of scientific information seeking during the first year. Then the students can build on this knowledge during the subsequent IL education in discipline-based seminars. First-year students may have good technical skills, but they still need to be introduced to academic resources and academic information seeking right away. In the two universities, UTA and UNAM, we are in different phases in our IL education development process. The experiences and IL practices we have had at UTA could be utilized with slight modifications in the Namibian context. A course could be piloted to ascertain the elements that work in UNAM.

At the UTA Library, university pedagogy training has been useful in developing the Basics of Information Seeking course as a whole, in designing the course content, selecting teaching and assessment methods and in professional self-reflection. We have had tools to develop ourselves as IL teachers and develop the quality of education and methods for professional self-assessment as well. First-year students receive special attention when they have just joined the academic community. Teamwork has proven crucial in planning and administrating the IL course for a large number of students.

The UNAM Library offers well organized orientation for new students. Finnish experiences can be used when further developing an IL course for first-year UNAM students. Assessment methods, assignments and group work elements could be developed as part of the IL education planning process at UNAM. The course content could be slightly altered to cover the basics in the first year and maybe have some advanced elements and content taught later on. Teamwork methods and positive feedback from the teacher to the students could be utilized to boost the students' self-confidence.

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Section 5

SCOLARLY COMMUNICATION AND SCIENTIFIC PUBLISHING

