



## Just in Case, Just in Time, or Just Don't Bother..? Assessment of One-shot Library Instruction with Follow-up Workshops

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### Abstract

This article examines if the timing of library instruction courses is an important part of how students experience library instruction as a means of developing information literacy skills. Two student groups, belonging to different academic subjects, have received the same training and the same assessment questionnaire afterwards. One of the groups was in the middle of writing their student thesis as a part of their final year of their bachelor degree work, the other group consisted of different subjects within the humanities and they were not working specifically with an assignment. Research shows that student's information seeking skills have not significantly changed over the last some 25 years. One may argue that information literacy skills are so practical that they cannot be taught in a classroom with a theoretical approach. One may also wonder how timing of library instruction affects the learning outcome for students.

**Key Words:** library instruction; information literacy; humanities; social sciences; assessment

### 1. Introduction

According to Kuhlthau (2004, p. 13), information seeking is a primary activity of life, and is therefore important for all students. Library instruction (LI)

is one of the best ways for students to learn to master information searching and retrieving quality information. While health sciences often include library training in the curriculum, liaison librarians for other subjects struggle to be included in the timetable, and if they do, the training is often based on one-shot library instruction. Can information literacy (IL) really be taught in a way that is understandable, and more importantly, transferable to other subjects, or to a student's specific research question in just one session? This study compares two surveys on one-shot LI with follow-up workshops. Two surveys have been issued to different subjects with basically the same instruction to examine if timing of LI is an important success factor.

## **2. Mapping of the field**

Information Literacy Competency Standards for Higher Education state that "Gaining skills in information literacy multiplies the opportunities for students' self-directed learning, as they become engaged in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for still further self-directed learning" (Association of College and Research Libraries, n.d.).

LI is becoming more and more vital to research and student academic assignments, but "Only one-fifth of ARL libraries consider teaching a key element of their mission" (Oakleaf, 2011, p. 62). Information literacy is said to be a part of lifelong learning and a set of skills that are measurable and transferable. But is it through LI that students learn to become information literates? Some argue that IL skills are situated and need to be developed in a context. Other studies conclude that "The teaching librarians should reflect on the timing and content of the classes in relation to attendees' information need, as well as the development of effective teaching skills that enhance attendees' retention" (Wong, Chan, & Chu, 2006, p. 389). The phrase "just in time or just in case" comes to mind. Are the students ready to learn to be IL from a one-shot LI during their time as undergraduates at any time in their student period, or is timing all? Or are IL skills simply so practical and so bound by subject, that it is impossible to teach during a one-shot library instruction session?

Both student numbers and information sources are increasing, while the library's number of staff is mainly the same at the University of Agder. This is most likely the case in many libraries. AUL serves as a case example in

this respect. It is clear that librarians need to make LI courses more effective. Still, students need to learn in order to be self-sufficient. Can big courses and a good learning outcome be combined? One study indicates that “library instruction (one hour) did influence student library usage, but it did not influence students’ library skills” (Portmann & Roush, 2004, p. 463). It is, of course a good thing that students use the library, but with a staff of 29 and a student body mass of 10,000 there is little possibility to provide them all with one to one guidance in the library help desk. Courses for 10–15 students at a time are also time consuming. So, for this to be well-spent time, our courses need to result in a good learning outcome.

“The challenges of teaching are numerous, perhaps especially for the academic librarian. While one of our mandates is to instruct, we are often limited in our capacity to do so since the class we are instructing is not really “ours.” We are visitors in the classroom, with the perception that we will be providing a lesson on skills, though not necessarily knowledge. When on the professor’s class, the librarian may also have to negotiate how much time he, or she, can spend there. Professors often expect librarians to cover a lot of material in an unreasonably short amount of time [...]” (Reale, 2012, p. 86).

Experience shows that when students are provided with too much information, they lose confidence and become dispirited. Especially bachelor students who are not yet confident with their subject and are already overwhelmed with reading the curriculum, fail to see the point of an LI class (Spievak & Hayes-Bohanan, 2013, p. 488). Kuhlthau (2004) also makes the point that students often experience lack of confidence when starting their quest for information. In the information age, selling an LI course can be like selling sand in the Sahara desert. The students are surrounded with vast quantities of information and do not see the use for a course teaching them to find even more. A study from Leeds University Library concludes, “IL should be part of a bigger academic skills agenda rather than standing alone” (Howard, 2012, p. 78). This way, students are more likely to see the connection to LI courses and library resources to their academic work.

The major findings in Project Information Literacy (PIL) indicate that students struggle with the amount and complexity of information and with formulating good search terms. The students found that their research competencies from high school were inadequate for college work (Head, 2013,

p. 3–4). Rowlands et al. (2008) also conclude that young people's information skills have remained the same over the last 25 years.

The Norwegian qualification framework for lifelong learning describes IL implicitly as generic competences and stresses the importance of student's abilities to locate, evaluate and use information in an ethical manner (NOKUT, 2014, p. 19).

### **3. Methodology**

Two surveys were conducted with two different groups of students at the University of Agder. The groups received the same training, but were studying different subjects. Both groups have received the same electronic survey after the courses on e-mail. All data has been gathered and analysed in the survey programme SurveyXact. The survey was issued in Norwegian, but has been translated to English for the purpose of this article.

The findings have been analysed through a behaviouristic view of IL, because the indicators are measurable through quantitative material.

The main purpose of the survey is to investigate whether LI has a mission and if the timing of LI is important. Although the selection is too small to say something in general about student learning, it may provide an illustration of these some 40 students' experience.

From the 100 students attending each course, only about 20–25% have answered the survey. This is a weakness in the study, but it could still indicate some interesting findings. The response rate would probably have been higher if the survey had been issued in direct connection with the courses, but the findings would have been less interesting as the point was to find out if the students still were using the tools provided in the LI course and workshops. The margin of error may be characterised by the fact that mainly the students who were very satisfied or dissatisfied with the LI answered the survey.

#### **3.1. Group number one**

Group number one consists of bachelor students in their last semester in sociology and social work, at the Faculty of Social Sciences. A vocational study

of students getting ready to write their bachelor thesis and either apply for jobs at the end of the term, or applying for a master's degree. Approximately 100 students attended this course. First a theoretical introduction to searching, source criticism and ethical use of sources is offered, then the students have the opportunity to attend a workshop to get hands-on help and guidance with their specific research question for their assignment. This course is advertised by their teachers and is put into their semester plan. The attendance is voluntary, but highly recommended by their teachers. Some 75 students attended the follow-up workshops.

### **3.2. Group number two**

Group number two is made up by bachelor students in the Faculty of Humanities and Education. This course is interdisciplinary and open to all bachelor students in the faculty. It is a new offering project, with voluntary attendance. Most of the teachers did advertise this to their students and encouraged them to attend. Some teachers showed some reluctance to the new way of offering LI from the university library, because they wanted subject specific courses. The library argued that subjects are quite general is widespread, and we can never be sure that the students get the exact examples they need. The library also argued that the theoretical part of the course will be transferable to different problems in different subjects, and that the students who attend the workshops will get hands-on help and guidance with their exact problem. Approximately 100 students attended the theoretical course, and some 60 students attended the workshops afterwards.

## **4. Theoretical framework**

Kuhlthau's Information Seeking Process (ISP) model describes a process in which the student goes through a range of feelings from frustration to confidence and accomplishment. ISP is divided into 6 stages (Kuhlthau, 2004, p. 44). The purpose of the use of this theory is to focus on the students' experience of LI to understand their premises for learning. Kuhlthau's theory may also provide a better understanding of librarians' role in the development of students' IL skills.

Kuhlthau's first stage, *task initiation*, when a person first recognises the need for information, is often associated with feelings of uncertainty and

apprehension, and actions involve discussing possible topics with others. Stage 2, *topic selection*, often gives way to feelings of optimism after the anxiety in stage 1. Stage 3, *pre-focus exploration*, is by many students considered to be the most difficult stage of the process. "Information encountered rarely fits smoothly with previously held constructs, and information from different sources seems inconsistent and incompatible" (Kuhlthau, 2004, p. 47). Stage 4, *focus formulation*, is the turning point for many students. The feelings of uncertainty diminish and confidence increases (p. 48). Stage 5, *information collection*, is when the interaction between the user and the information system functions most effectively and efficiently (p. 49). "The user, with a clearer sense of direction, can specify the need for relevant, focused information to librarians and systems, thereby facilitating a comprehensive search of all available resources. Feelings of confidence continue to increase as uncertainty subsides, with interest in the project deepening (p. 49).

According to Kuhlthau (2004, p. 115) mediation is divided into 5 levels; organizer, locator, identifier, advisor and counsellor. While levels 1–4 are based on certainty, level 5, the counsellor, approaches information searching as something that is an individual and creative process for each person. This level also establishes a dialogue and expects the user to return periodically. In courses for large numbers of students, level 4 may be more applicable. In this level, the user is guided through a number of different sources, and also recommendations for use of these sources (Kuhlthau, 2004, p. 117). Level 5, the counsellor, is more applicable in the workshops where the students are not only able to, but also encouraged to bring their own research questions and other practical questions, and are given one to one guidance. This requires detailed knowledge of relevant databases from the librarians in order to tailor a search recommendation for each student based on their subject interest and assignment problem.

Library anxiety has been described by Mellon (1986) as students not knowing where to start or how to search through the library. In the nearly 30 years that have passed, much has happened. The Internet has made the library resources available from computers, even outside the library, and search interfaces have been made user-friendlier. The Google generation is emerging to the universities, and we believe that they are able to search on their own. "[...] this is a dangerous myth. Digital literacies and information literacies do not go hand in hand. A careful look at the literature over the past

25 years finds no improvement (or deterioration) in young people's information skills" (Rowlands et al., 2008).

In order to reduce library anxiety, LI needs to be timed in order to reach the students while they are in Kuhlthau's fourth stage of ISP, when they are formulating their problem, and the next stage is information collection.

## 5. About the LI courses

Both groups have been given LI using the "success-method" (Zins, 2000) and are challenged to reflect upon their information needs and information behaviour. Libraries often use their LI time showing mechanical searching in different databases, while the success-method focuses on reflection and conscious choices of information channels. The students are asked to answer these five questions of the success method:

- What (what is their research question for their assignment?)
- Where (where should they look for information?)
- Words (find keywords from their problem along with synonyms)
- Work (actually doing their search)
- Wow (evaluating their search result).

To remember these phases of a search they need to remember 5 W's.

### 5.1. Why success?

While many LI courses focus on mechanical search interface demonstrations, the success method offers a way of systemizing the search process and it also invites the students to reflect upon their search strategy, their choice of databases, and their choice of keywords. This also gives the librarian an opportunity to go from "identifier" to "counsellor" in the mediation process.

Library anxiety is probably grounded in the vast number of databases and the huge quantity of information available. When using "success" the students get an overview first, and learn that there is need for different sources depending on what their usage is going to be. They learn not only "how" and "where", but also "why".

## 5.2. Adjustments of the success method: using a search form

During their “what” phase the students are encouraged to use the following search form, inviting them to reflect upon search terms and synonyms and making notes of their results along the way.

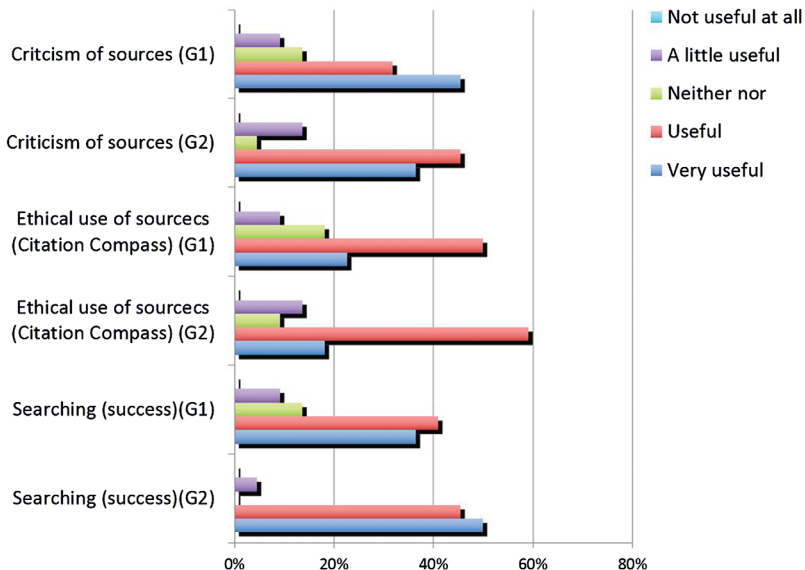
Database	Norwegian keywords	Norwegian synonyms	English keywords	English synonyms
Results:				

## 6. Main findings

Of the approximately 100 students of group 1 who received the survey, 22 completed it. From group 2, 26 students completed the survey, though 6 of the students did not respond to all questions.

Their responses (Figure 1) showed that all three parts of the LI were considered useful.

Fig. 1: How would you rank the different parts of the course (G1 N=22) (G2 N=22).





77% of the respondents said that the source criticism part of the course was useful or very useful; on the part that covered ethical use of sources, 81% said that this was useful or very useful and 95% stated that they found the searching part of the course useful or very useful.

The students were asked more thorough questions about the success method, if, and in what ways they found it useful and if they thought it likely to use it again. The answers are summarized in Figure 2.

From group 1, 82% stated that they found the success method useful to systemise their searching. 73% said that they thought success helped them achieve better search results. 64% said that success gave them a better understanding of what type of sources they needed. Only 9% stated that they did not see the meaning in using success.

Group 2's responses showed that all three parts of the LI were considered useful. 73% of the respondents said that the source criticism part of the course was useful or very useful, on the part that covered ethical use of sources, 77% said that this was useful or very useful and 77% stated that they found the searching part of the course useful or very useful.

Fig. 2: Assessing the "success" method (G1 N=22) (G2 N=21).

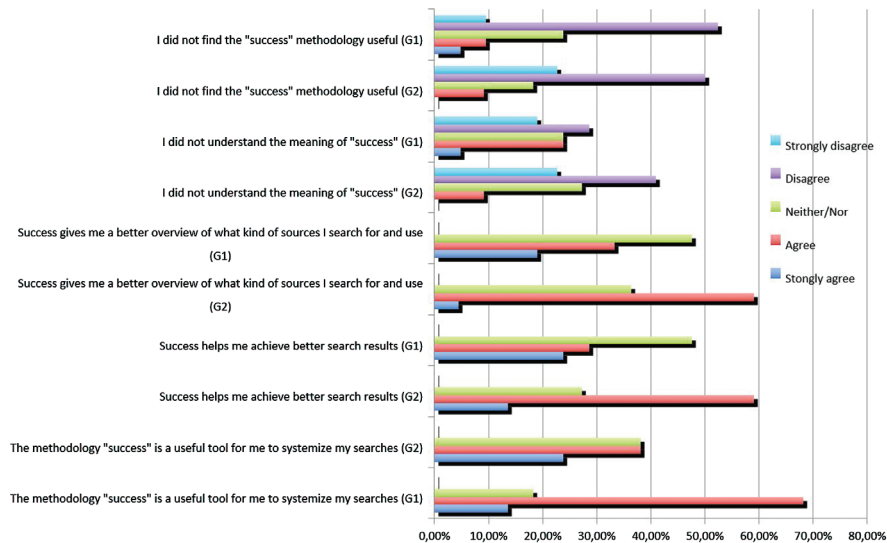


Fig. 3: Assessment of follow-up workshops (G1 N=18) (G2 N=7).

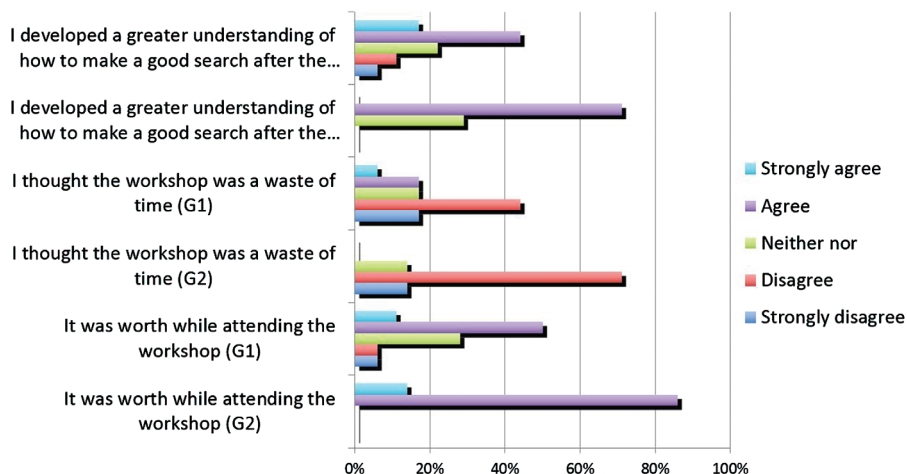
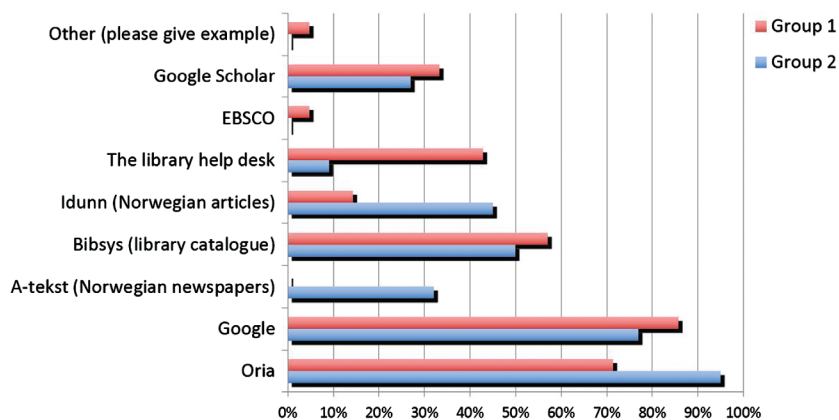


Fig. 4. What information channels do the students use? (G1 N=22) (G2 N=21).



The students were asked more thorough questions about the success method, if, and in what ways they found it useful and if they thought it likely to use it again.

From group 1, 62% stated that they found the success method useful to systemise their searching. 53% said that they thought success helped them

achieve better search results. 52% said that success gave them a better understanding of what type of sources they needed. 29% stated that they did not see the meaning in using success.

In group 2, 52% stated that they found the success method useful to systemize their searching and 59% that success helped them achieve better search results, but 59% answered “neither/nor” when asked if they thought “success” gave them a better understanding of what type of sources they needed. Only 10% stated that they did not see the meaning of using the “success” method.

In group 1, 82% of the respondents stated that they had attended the workshops after the lecture, and 61% stated that this was worthwhile. 61% said that they developed a greater understanding of searching after they had attended a workshop. 23% felt that the workshop was a waste of time.

In group 2, only 33% of the respondents of group 2 stated that they had attended the workshops after the lecture, however 100% stated that this was worthwhile. 71% said that they developed a greater understanding of searching after they had attended a workshop. None of the attending respondents felt that the workshop was a waste of time. But with an answer rate of only 7, this displays some uncertainty.

## **7. Discussion. Which information channels do the students use?**

Group 1 ranked Google (77%) and the library catalogue (95%) highest. Group 2 also ranked these two highest, but here the library catalogue came in second place with 71% and Google ranked at top with 95%. Google Scholar was not covered in the LI, and had a small usage among the respondents with 27% (group 1) and 33% (group 2).

The differences are small, but still interesting. While group 1 had a higher interest in searching systematically, and a higher attendance to workshops, group 2 was less enthusiastic about this. The variables are both subjects, and the timing of the course in relation to their bachelor assignment. Is this a case

of subject differences and methodology, or simply a matter of “just in time or just in case”? Kuhlthau’s stage 4, focus formulation, is considered the turning point for many students. The feelings of uncertainty diminish and confidence increases (Kuhlthau, 2004, p. 48). This may suggest that LI should not be given until the students have formulated their problems and know what they need. In this stage they are ready to receive LI and benefit from it. “Before the focus was formed, they commonly felt confused and anxious. After the focus was formed, they felt more confident and had a sense of direction” (p. 41). The surveys confirm Kuhlthau’s theory and gives grounds for the importance of timing of LI.

Bloom’s taxonomy indicates that “Our general understanding of learning theory would seem to indicate that knowledge which is organized and related is better learned and retained than knowledge which is specific and isolated” (Bloom, 1956, p. 35). This makes a case for teaching students general and generic IL skills. But Bloom also makes the point that “[...] on the other hand, generalizations or abstractions are relatively difficult to learn unless they are related to appropriate concrete phenomena” (p. 36). From this, it is clear that IL skills need to be put to practical use to make students see the value.

Most of the attending students are new students and young people, all part of the so-called “Google generation” or “digital natives”, but this still demands skills in IL to find quality information. “Firstly, there is increasing evidence that, as technology and the internet allow us to readily find information, skills in evaluating, managing and using information effectively become ever more vital” (Howard, 2012, p. 74). LI is in other words more vital to students than ever. Finding their way in the vast quantities of information requires a local guide with knowledge about the information landscape.

IL skills are both theoretical and practical. One could argue that LI skills are so practical that one could not teach them theoretically. The workshops have proved to be a good way of implementing the basic generic skills of IL, even for the students that were not in the middle of writing an assignment. This proves that a theoretical course could give a good introduction to IL, but hands-on training is important. The survey shows that most of the students understood more of the searching process after they had attended the workshop.

“Information literacy education has augmented the manner by which librarians interact with students and this collaborative effort with faculty will continue to link the two professions in a common effort to produce the most effective information literacy instruction, leading to a measureable level of academic fulfilment” (Massis, 2011, p. 276).

From the results of the surveys it is clear that students find LI useful. Even though they are likely to have been using Google for a long time, they have probably not used it for academic searching. Libraries are rapidly moving towards discovery systems, and more intuitive search interfaces. But students are used to whole sentence searching, which will not be a good strategy in the library catalogue, or discovery systems. Students need to appreciate the nature of the information space and how information is represented (Rowlands et al., 2008, p. 302). The best way to learn this is still through LI or professional guidance.

Kuhlthau’s theory focuses on contact throughout the assignment period, and that the student and librarian should stay in touch. However, this will be difficult to do in real life when hundreds of students are writing their assignment at the same time. While this is probably the best way to go, the practicality of this is almost impossible. More workshops could have been followed through, and this would be of interest to investigate in further research.

Searching for academic material is different from finding leisure reading and quick information on Wikipedia. While Google invites full sentence searching, library databases function best with controlled search terms. In addition the result list needs to be carefully evaluated. Both groups considered the source criticism part of the course very useful. This indicates that this is not a skill that is mastered by students, even in the Google generation. Ideally librarians should offer LI to smaller groups at a time when they are needed, but this will involve a restructuring of many librarians’ way of working. Librarians may need to spend less time as organisers and facilitators and more time in the classroom. Librarians may need to work even more closely with the faculty and try to be included in the class curriculum. Or, the librarians may need to stop spending time in classrooms, and instead be there when the students visit the library. This is probably not the best solution, as library anxiety can increase when students are not introduced to their liaison librarian. LI can also help students become self-efficient and in this way make a trip to the library help desk more obsolete.

## 8. Conclusion

It may seem that timing plays an important role in student's opinion of LI, and their further use of library resources. Both groups were given the same course, but the group that was given LI while working on a specific assignment had a higher use of the library discovery system. The difference in subjects could also contribute to the difference concerning this, but Kuhlthau's theory would suggest that the timing and the students' placement in the information seeking process would have a large effect on their feelings about LI and their own confidence in searching. While the success methodology gives students a good theoretical framework to reflect upon their search process, they still need to follow-up with practical exercises and a tailored selection of sources for them to search. Library instruction with follow-up workshops have proved to be a successful way of improving students' information literacy, but the timing of the course plays a large role in the motivation and learning outcome of the students.

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