

Assessment of Information Literacy: A Critical Bibliography

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Abstract

This annotated bibliography examines the library science literature, exclusively journal articles, on the topic of the assessment of information literacy. The authors focused on actual research studies, eliminating purely theoretical discussions, as valuable as they may be. The undergraduate population was the primary focus, in keeping with the authors' context of a community college. Assessment of student learning was also a primary parameter as well, which means several articles were left out because the writers surveyed institutions, or classroom faculty or librarians. A final parameter includes restricting research to 2007 or later. This is a critical bibliography. The authors have highlighted the articles that they felt are most important, or most interesting. The commentary is not really systematic, so the lack of any particular point of view in a summary should not be taken as a criticism. The authors hope that readers will get an overview of the field of assessment of information literacy, and perhaps have their curiosity sparked or rekindled.

Keywords: bibliography, student learning, undergraduates, information literacy

Introduction

What follows is an annotated bibliography on the assessment of information literacy. It was born out of chronic curiosity, and a tendency to attract an incredible number of research articles in the form of PDFs. The topic grew out of a mutual interest in assessment. In an attempt to limit the size of this project we have given it several boundaries. We stuck with journal articles, being very well aware that there are several valuable texts that have been published on the subject. We tried to stick with actual research studies; we have eliminated purely theoretical discussions, as valuable as they may be. We stuck to the undergraduate population, because we work at a community college. We trying to focus on the assessment of student learning, which means several articles were left out because the writers surveyed institutions, or classroom faculty or librarians. Finally we give it a date limitation, restricting our research to 2007 or later.

This is an attempt to be thorough, but we will not claim that it is comprehensive. We have surveyed all the major databases in the fields of education and library science. We have also read widely, keeping our eyes open for appropriate content. We are sure that we missed something!

This is a critical bibliography. We have highlighted the articles that we feel are most important, or most interesting. Our comments are not really systematic, so the lack of any particular point of view in a summary should not be taken as a criticism. Our intention is that our readers will get an overview of the field of assessment of information literacy, and perhaps have their curiosity sparked or rekindled.

Ashley, J., F. Jarman, T. Varga-Atkins, and N. Hassan. "Learning Literacies Through Collaborative Enquiry; Collaborative Enquiry Through Learning Literacies." *Journal of Information Literacy* 6, no. 1 (2012): 49-71.

Ashley et.al. report on a curriculum that was developed for music students. Because of staffing shortages, and because of the interest of the authors in enquiry based learning, students were asked during the second semester of a two semester course to use a "wiki tool" to "create a website to instruct and aid incoming first-year music students in developing study skills" (56). Course-integrated assessment was used, with each wiki being evaluated by several collaborators (57). There was also a survey offered at the end of the course, seeking students' reactions to the course and to the wiki assignment (58).

Baldwin, Virginia. "Resources for Assessment of Information Literacy." *Science & Technology Libraries* 28, no. 4 (2008): 367-374.

Baldwin offers a brief literature review, followed by an assessment questionnaire that was developed by the author to evaluate the information literacy skills of engineering students. Each question is discussed in detail.

Bean, Teresa M. and Sabrina N. Thomas. "Being Like Both: Library Instruction Methods that Outshine the One-Shot." *Public Services Quarterly* 6, no. 2-3 (2010): 237-249.

Changes in the instructional approach at Marshall University came after examining scores from the iSkills™ assessment. The new approach combined digital learning objects with embedding librarians in certain classes. The new program was then evaluated by a survey of the students who had benefited from the intensive program

(245). An interesting demonstration of the importance of closing the loop and making coherent changes based on the outcome of an assessment initiative.

Beile, Penny M. "Assessing an Institution-Wide Information Fluency Program: Commitment, Plan, and Purposes." *Public Services Quarterly* 3, no. 1/2 (2007): 127-146.

The University of Central Florida adopted a comprehensive information fluency program as part of a "quality enhancement plan." Beile described the process of getting the program approved, including designing an assessment program. The author offered Information fluency as a combination of information literacy, computer literacy, and critical thinking (131). To assess the effectiveness of their program, the librarians at UCF deployed a standardized test, but felt it was important to supplement it with a variety of locally developed assessment instruments (particularly in the more advanced classes) (138). As the program at UCF matures, they are stressing a multi-modal approach to assessment, including using rubrics to evaluate student portfolios (142).

Bent, M.J., and E.A. Stockdale. "Integrating Information Literacy as a Habit of Learning- Assessing the Impact of a Golden Thread of IL Through the Curriculum." *Journal of Information Literacy* 3, no. 1 (2009): 43-50.

Specifically this paper describes the information literacy program that has been developed for the Environmental Science curriculum at Newcastle University. The approach of the authors specifically links information literacy skills with the subject matter, and specifically highlights the "overlap" between information literacy and "science literacy" (44). As is not unusual, the specific needs of the environmental science program turned up during a program review. Collaboration between the "academic and

library staff" was very important in the development of this program (46). It's pretty clear that the intervention program that the authors developed has a very broad scope, which included a range of strategies, and depended on scaffolding, teaching different skills each year of the program. An interesting, thought-provoking article.

Bowles-Terry, Melissa, Erin Davis, and Wendy Holliday. "Writing Information Literacy Revisited Application of Theory to Practice in the Classroom." *Reference & User Services Quarterly* 49, no. 3 (2010): 225–230.

The authors begin with a pedagogical critique that comes from the work of Rolf Norgaard, urging a much deeper collaboration between librarians and writing instructors. Working intensely with the English department, they constructed a curriculum that was based on problem-based learning, and took advantage of multiple visits with the librarian (226-227). Evaluation was done through focus groups, anecdotal observations and evaluation of students' work for the course in question (227).

Brown, Carol Perruso, and Barbara Kingsley-Wilson. "Assessing Organically: Turning an Assignment into an Assessment." *Reference Services Review* 38, no. 4 (2010): 536-556.

Brown and Kingsley-Wilson described the stages of a library assignment for a journalism course (Reporting and Information Gathering (JOUR 311) at CSU Long Beach (539). It evolved from a "15-question 'treasure hunt' based on print sources to a 6-question assignment that relied on web based sources (541). The journalism department adopted the assignment as a programmatic assessment tool (544). As the tool was more widely adopted, the authors created a scoring rubric to "assure common scoring

criteria” (546). This is an interesting exploration of question design, and the value of organic, open-ended assessment.

Buetter Manus, Sara J. “Librarian in the Classroom: An Embedded Approach to Music Information Literacy for First-Year Undergraduates.” *Notes* 66, no. 1 (2009): 249-261.

The author begins with an effective critique of the "dreaded one-shot." Status quo resulted in poor selection of sources and either nonexistent or poorly formatted footnotes (250). Faculty requested an intensive 5-session curriculum in the gateway course for the music students. Author remarks that more time would allow her to "move beyond simply teaching our OPAC and the basics of citation” (251). She chose an embedded model that had her in the classroom every time the class met. The author discovered in meetings before the semester started the value of working with the classroom faculty. Conclusions demonstrate successes but also own that to truly "embed" takes an enormous amount of time. The article includes worksheets and exercises.

Burkhardt, Joanna M. “Assessing Library Skills: A First Step to Information Literacy.” *portal: Libraries and the Academy* 7, no. 1 (2007): 25-49.

Burkhardt describes assessment within the context of a 3 credit course (LIB 120 Introduction to Information Literacy) offered by the University of Rhode Island (26).

The curriculum for LIB 120 includes a portfolio, which is meant to demonstrate the research process for a term paper (28). They also used an objective pre-test and post-test to measure library skills (28). The author presents a detailed statistical analysis of the results from the pre-test and post-test for the fall semester of 2005 (32). The narrative

does show the value of ‘closing the loop’ with assessment, by revising the curriculum after doing the analysis (44). University of Rhode Island also implemented a “modified version of the Bay Area Community College information competency assessment exam” as of 2006, in hopes finding comparisons across institutions (44).

Burkhardt, Joanna, Jim Kinnie, and Carina Cournoyer. “Information Literacy Successes Compared: Online vs. Face to Face.” *Journal of Library Administration* 48, no. 3 (2008): 379-389.

The University of Rhode Island offers a three-credit introduction to information literacy to undergraduates. During the period 1999-2004 a pre- and post-test developed in-house was used to assess the course (382). Another form of assessment was student portfolio project. The instructors decided to use a comprehensive exam for assessment of this course, which could be given to online students and face-to-face students. They adapted for their purposes the Bay Area Assessment exam. The entire exam was placed into the WebCT so that it was available for the online classes as well as the face-to-face classes. The students in the online sections did “as well, and perhaps a bit better, as their counterparts in the face-to-face sections” (387). The authors acknowledge that this result could have many different explanations.

Cameron, Lynn, S.L. Wise, and S.M. Lottridge. "The Development and Validation of the Information Literacy Test." *College & Research Libraries* 68, no. 3 (2007): 229.

The article discusses the process of creating the web-based Information Literacy Test that was developed at James Madison University. It was a 1-hour multiple choice exam used to assess information literacy. The purpose of developing the web-based test was so other institutions could use it to assess information literacy.

Castonguay, Remi. "Assessing Library Instruction Through Web Usability and Vocabulary Studies." *Journal of Web Librarianship* 2, no. 2-3 (2008): 429-455.

Castonguay asserts that web usability study techniques can be useful for assessing library instruction, at least as it pertains to information retrieval (a component of information literacy) (432). The web usability study done by LaGuardia Community College Library in 2005-2005 was multi-faceted. Castonguay used only the data from the "Web tasks test and vocabulary test" to evaluate students information retrieval skills (436). Using a random sample of students recruited from public areas on campus (outside the library), some students had received library instruction and some had not (437, 439).

The students who had received instruction did markedly better on certain skill tests (439). The author also tries to correlate the results of the skills test and the test of comprehension of library jargon, to see if those who did better with vocabulary are better researchers (442-443). Castonguay is not really offering new assessment tools, but rather suggesting that instruments can be sometimes put to dual purposes.

Cmor, Dianne, Alison Chan, and Teresa Kong. "Course-Integrated Learning Outcomes for Library Database Searching: Three Assessment Points on the Path of Evidence." *Evidence Based Library and Information Practice* 5, no. 1 (2010): 64-81.

This article is based on instruction and assessment of library database searching within the context of a required first year ICT course being run by the Computer Science department. The study assessed all the sections of the course using three different assessment tools. They assessed in-class exercises, presentations made 2 weeks later, and interviewed classroom instructors. The results highlight transference problems. It is not clear that the students who performed well on the in-class exercises, the same day as the library presentation, were then able to use the same skills later in the semester.

Cooke, Rachel. "Students Use More Books After Library Instruction: An Analysis of Undergraduate Paper Citations." *College & Research Libraries* 72, no. 4 (2011): 332-343.

At Florida Gulf Coast University librarian teach information literacy classes using variety of methods. These include online tutorials, online chat, personal consultations, walk-in reference desk assistance, and in-class library instruction (332). In fall 2008, students from eight first-year Composition I classes at Florida Gulf Coast University participated in a study in which a librarian provided instruction to four classes (the experimental group) and provided no instruction to four other classes (the control group) (333). The librarians analyzed the students' citation pages. The students who had instruction also cited more types of sources and more overall sources (333). The librarian concluded from their study that library instruction benefited the students.

Cordell, Rosanne M., and Linda F. Fisher. "Reference Questions as an Authentic Assessment of Information Literacy." *Reference Services Review* 38, no. 3 (2010): 474-481.

The authors designed a study to examine whether reference questions can be used to assess information literacy (474). The main concern is whether instruction changes "research behavior outside of the classroom ...and how could it be measured" (475). From 2004-08 for a three week period the librarians recorded the questions asked at the reference desk. The students were asked what year they were in and if they had taken the information literacy course and when. The authors concluded "that...the introduction to information literacy course at IU South Bend [is] highly effective in teaching the skills covered in its curriculum" (480).

Dacosta, Jacqui Weetman, and Becky Jones. "Developing Students' Information and Research Skills via Blackboard." *Communications in Information Literacy* 1, no. 1 (2007): 16-25.

The librarians in this study taught two groups. One received traditional instruction and the other group used library instruction through Blackboard. For this study the librarians developed an information literacy framework. It was comprised of seven learning outcomes that were based on the British Society of College, National and University Libraries "Seven Pillars" model (17). When the authors developed the Blackboard modules they were closely aligned with the content of the traditional class. The Blackboard instruction followed a hybrid model. Each session started with a brief lecture and then students were given the rest of the 50 minutes to work through the Blackboard Content (18). The authors felt that their project was worthwhile. Their

conclusions endorsed the use of classroom management systems to deliver library instruction.

Daniels, Erin. "Using a Targeted Rubric to Deepen Direct Assessment of College Students' Abilities to Evaluate the Credibility of Sources." *College & Undergraduate Libraries* 17, no. 1 (2010): 31-43.

The author begins by critiquing the Third Standard from the ACRL standards (32). The Standard is described as "dense and complex" and the author suggests that the performance outcomes do not offer any pedagogical guidance. The outcomes are not structured to indicate which order the skills should be taught in. The author also feels that broader assessments of a "whole suite" of information literacy skills do an inadequate job of pinpointing these particular outcomes (32). This lays the groundwork for describing the use of a rubric, specifically targeted to "deepen the assessment of freshman students' ability to evaluate source credibility" (32). The context for the development of the rubric was a "freshman-level oral communication/ critical thinking course" (35). Seeking a set of skills that could be taught in incremental steps (35) the author rewrote the information literacy learning outcomes for the course. Those were "changed from addressing the entire suite of information literacy outcomes to addressing only the ability to evaluate the credibility of sources" (35). Having focused the instruction, a "targeted, deeper rubric" was developed to score an annotated bibliography (35). The rubric has seven distinct levels of evaluation, and was applied to each annotation separately (36). The author discusses the meaning of each level in considerable detail. The scores for the work of 63 students in the target course are also provided (39). The author has very clear concerns about "developmentally appropriate ... reasonable expectations" (41).

Daugherty, Alice L., and Michael F. Russo. "An Assessment of the Lasting Effects of a Stand-Alone Information Literacy Course: The Students' Perspective." *The Journal of Academic Librarianship* 37, no. 4 (July 2011): 319-326.

The University of Louisiana at Lafayette (ULL) has a standalone credit-bearing information literacy course (LIS 1001 Research Methods and Materials). Wishing to evaluate the long-term effect of the course, the authors designed an Assessment Survey that targeted students who had taken LIS 1001 in the last 3 years. Zoomerang (a proprietary online survey tool) was used to construct and distribute the survey to just over 2000 students. The response rate was 15%. The survey covered whether or not the skills learned in LIS 1001 had been used in other classes, and whether or not these skills had been used outside of school. The questions were open-ended.

Detlor, Brian et al. "Learning Outcomes of Information Literacy Instruction at Business Schools." *Journal of the American Society for Information Science and Technology* 62, no. 3 (2011): 572-585.

The authors set out to examine information literacy instruction at three different business schools (573). The goal is "to generate a model that describes and identifies the various factors that may affect information literacy instruction learning outcomes the business school context" (574). Data was gathered through a combination of interviews with various stake holders and the administration of the SAILS standardized information literacy test. The result was an interesting snapshot of the "information literacy program components, the learning environment and student learning outcomes" (576). at the different schools. The authors use the common themes in the different programs to promote active learning and mandatory information literacy instruction (577). The results of the research study are discussed in detail. Most of the conclusions are not business

specific and “the authors believe that the model can equally be applied to other academic disciplines and not just business” (582).

Dill, Emily. “Do Clickers Improve Library Instruction? Lock in your answers now.” *Journal of Academic Librarianship* 34, no. 6 (2008): 527-529.

This study compares quiz results where students used clickers and those who did not. The results showed no difference in the retention of the material (527). Dill presented several techniques and technology for improving library instruction. These methods are active learning, podcast-guided library tours and online tutorials. She agrees that she has not been able to improve that clickers improve library instruction. They are very definitely connected to the issue of active learning, and might magnify the utility of “different pedagogical settings” (529).

Diller, Karen R., and Sue F. Phelps. “Learning Outcomes, Portfolios, and Rubrics, Oh My! Authentic Assessment of an Information Literacy Program.” *portal: Libraries and the Academy* 8, no. 1 (2008): 75-89.

As part of a campus-wide examination of general education learning goals at Washington State University (Vancouver), Diller and Phelps developed rubrics to score a random sample of e-portfolios, specifically looking at the communication and information literacy scores. This is a component of a campus-wide general education program that addresses 6 “university learning goals” (75). The article includes discussion of the strengths and weaknesses of the “learning goal matrix” and the use of rubrics to score the resultant e-portfolios. The paper concludes with a statistical analysis of the information literacy and communication scores from the first batch of portfolios that were

part of this initiative, and a forthright discussion of the revisions that were found to be necessary in the process.

Domínguez-Flores, Noraida and Ling Wang. "Online Learning Communities: Enhancing Undergraduate Students' Acquisition of Information Skills" *The Journal of Academic Librarianship* 37, no. 6 (2011): 495-503.

Dominguez-Flores and Wang (Nova Southeastern University) have written a detailed description of a complex research study that sought to determine the impact of both online tutorials and online learning communities. The variables involved in looking on face-to-face instruction, online learning communities using Facebook, and a group of online tutorials, meant that there were four distinct experimental groups (499). The study included both qualitative (focus groups, individual interviews and data from online interactions) and quantitative assessments (pre-tests and post-tests) (499). The authors include a statistical analysis of the results from each assessment method. Because the online learning community provided one-on-one counseling over time, it was judged to be a more effective method of instruction than the tutorials (501).

Dunnington, Angela, and Mary Lou Strong. "The Rocky Road to Assessment: The Creation of an Assessment Tool for an Information Literacy Credit Course." *Codex: The Journal of the Louisiana Chapter of the ACRL* 1, no. 2 (2010): 53-79.

Dunnington and Strong have written a very frank account of how challenging it is to create a valid pre and post test survey. The context at Southeastern Louisiana University is a one-credit, 8 week information literacy course that is taught by library faculty. The instrument that they developed was actually a revision of an existing

assessment instrument for that course. It is difficult to get librarians to agree on survey questions that are meant to test certain content areas, and librarians are generally not well trained in survey creation (61). The result is a mix of questions that are ambiguous and questions that are obvious (61). This is a very useful and interesting, cautionary tale.

Edzan, N.N. "Tracing Information Literacy of Computer Science Undergraduates: A Content Analysis of Students' Academic Exercise." *Malaysian Journal of Library and Information Science* 12, no.1 (2007): 97-109.

The author describes a project that took advantage of the fact that the final reports of the undergraduate program of the Faculty of Computer Science and Information Technology (University of Malaya) are kept on file in the Faculty Library (98). This provided a ready supply of papers to use for a citation analysis project. The project used the bibliographies of these papers as evidence of information literacy skills as standardized by the ALA/ACRL/STS Task Force on Information Literacy for Science and Technology (98). This is an interesting project for a very different context, but it raises real questions about summative assessment, where it is impossible to close the loop. The author's analysis did turn up some significant weaknesses, but seems to offer no coherent plan to remedy the situation (105).

Fain, Margaret. "Assessing Information Literacy Skills Development in First Year Students: A Multi-Year Study." *The Journal of Academic Librarianship* 37, no. 2 (2011): 109-119.

This paper addresses the analyzing of assessment data from 5 years of a pre-test and post-test. The study examined students taking English 101 Composition. The pre-test was administered by the classroom faculty during the first 2 weeks of the semester and returned to the librarians. Four weeks before the end of the semester post-tests were administered. Between the time of the pre-test and the post-test the students attended at least one library instruction session focused on their research project. The results of the study showed "One common theme that emerges from reviewing the overall data is that 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" (113). The author concluded, "Re-examining data from previous years of assessment is a worthwhile undertaking. Looking at the results through the lens of statistical analysis shows us where statistically significant changes are taking place in student learning, regardless of the year or class in which students were tested" (118).

Fagerheim, Britt A., and Flora G. Shrode. "Information Literacy Rubrics Within the Disciplines." *Communications in Information Literacy* 3, no. 2 (2009): 158-170.

Fagerheim and Shrode developed discipline specific rubrics to evaluate capstone projects in psychology and chemistry senior seminars. The separate rubrics were created, based on "the benchmarks appropriate for each major" and were reviewed by the classroom faculty who had agreed to be part of the project (159). Once the librarians had received the papers, they did discover that they did feel qualified to assess some of the

benchmarks that they had originally included in the rubric (163). Because of the small sample size, it was hard to establish whether the scores were realistic, or whether the rubric needed further work (164).

Ferrer-Vinent, Ignacio, and Christy Carello. "Embedded Library Instruction in a First-Year Biology Laboratory Course." *Science & Technology Libraries* 28, no. 4 (2008): 325-351.

This article describes an extensive collaboration between a science librarian and a biology professor in developing a new curriculum for a freshman biology laboratory course. Aspects of the collaboration included an extended library instruction session, and collaboration on writing the library skills chapter for the textbook that was being written for the course (including graded exercises) (327). The curriculum requires that the students do library research throughout the semester (331). The authors have written an important reminder that "librarian-faculty collaboration results in more meaningful instruction for the students" (332).

Gilbert, J. "Using Assessment Data to Investigate Library Instruction for First Year Students." *Communications in Information Literacy* 3, no. 2 (2009): 181-192.

Gilbert asked the question whether multiple library instruction sessions would make a difference for first year students. The context is the First Term Seminar program at Gustavus Adolphus College (182). Sections of FTS were recruited for both a control group (single instruction sessions) and an experimental group (183). Assessment was done with a pre-test and a post-test, and review of selected research papers (183). The results of the pre-test and the post-test and the citation analysis are carefully reviewed:

“Students in the experimental group exhibit a small but positive increase in some of their information literacy skills” (188). The assessments also measured confidence level, and there was a marked improvement in research confidence with the experimental group (188). The citation analysis “... shows that students in the experimental group are much more likely ... to use library resources...” (188).

Gilstrap, Donald L., and Jason Dupree. “Assessing Learning, Critical Reflection , and Quality Educational Outcomes: The Critical Incident Questionnaire.” *College & Research Libraries* 69, no. 5 (2008): 407-427.

This use study uses Brookfield's Critical Incident Questionnaire (CIQ) (704) to assess information literacy. The authors begin with an overview of the teaching philosophy developed by Brookfield and Trip, as a way of explaining the approach of the CIQ (408-409). The assessment was integrated in to a four-session library instruction curriculum that was part of the second year English classes (410). After each session the students were asked to complete a short five question CIQ (410). According to the authors, CIQ “proved to be an effective qualitative instrument to assess critical reflection and critical incidents during the process of learning” (423). Set within the context of a very specific teaching philosophy, an interesting article.

Goebel, Nancy, Paul Neff, and Angie Mandeville. “Assessment Within the Augustana Model of Undergraduate Discipline-Specific Information Literacy Credit Courses.” *Public Services Quarterly* 3, no. 1 (2007): 165-189.

In collaboration with the classroom faculty, the librarians at Augustana created around twenty discipline specific credit bearing information literacy courses (167). Course work for each student is drawn from a “co-requisite” course of the student’s

choice, which “requires significant library research” (168). The authors describe the assessment of this program as “multi-pronged,” meaning that a mixture of assessment tools was used including “pretest/post-tests, course assignments and tests” (169-170). In addition, the librarian instructors were evaluated by both the students (in the traditional end of the semester evaluation) and by the department (teaching observation) (170). The authors look at the pre-test and the post-test in some detail, looking at both the questions used and the results. A separate assessment program has also examined the long term impact of this program by surveying students and graduates (184-185).

Goebel, Nancy et al. “Making Assessment Less Scary: Academic Libraries Collaborate on an Information Literacy Assessment Model.” *College & Research Libraries News* 74, no. 1 (2013): 28–31.

This is a description of collaborative project among several local institutions to create unique assessment tool for the assessment of information literacy (28). They decided to use a "post-test questionnaire" because it would be flexible and the data would be easy to analyze. (29). The group developed a pool of "summative, evaluative multiple-choice questions," and also added open ended "formative" questions to the format (29). The questionnaire was generated and distributed to the students electronically at the end of class (29). This was a pilot project, and the authors speak honestly about problems with question design that turned up (29). This is unique because it is a collaborative project across several institutions, with all the joys and challenges that collaboration brings.

Goss, Harold. "Extending Library Instruction: Using Blogger." *Journal of Library & Information Services* 4, no. 4 (2010) 166-184.

Goss presented a very unique project, using a blog to provide an ongoing stream of library instruction for a freshman communications class at Stanford University. There were two forms of assessment in the project. Students received credit for responding to the librarian's blog posts, regardless of whether or not their response was correct (171). There was also a survey at the end of the term "to help gauge if learning had occurred and if information had been retained" (175). The assessment was also given to a control group "that did not participate in the blog initiative" (175). Comparison of the scores for the two groups showed higher scores for the experimental group (175).

Grays, Lateka, Darcy Del Bosque, and Kristen Costello. "Building a Better M.I.C.E. Trap: Using Virtual Focus Groups to Assess Subject Guides for Distance Education Students." *Journal of Library Administration* 48, no. 3 (2008): 431-453.

The librarians at University of Nevada, Las Vegas, were using subject guides for library instruction with their distance education students. A variety of subject guides were available online. They wanted to determine if the students found the guides useful.

Virtual focus groups were set up to assess the study guides. The study found that the subject guides are very useful to the students. In addition, the virtual focus groups were found to be a successful methodology with distance learning students (444).

Gross, Melissa, and Don Latham. "Attaining Information Literacy: An Investigation of the Relationship Between Skill Level, Self-estimates of Skill, and Library Anxiety." *Library & Information Science Research* 29, no. 3 (2007): 332-353.

This article looks at the correlation between results from a test of skill, survey results, and a test of library anxiety. The researchers are looking at how "non-proficient" students view themselves, as well as examining the correlation between skill level, self assessment, and anxiety level (334). They are using "Competency theory" as a frame (336), as well as the idea of library anxiety (337). The ILT from James Madison University was administered to a sample group of incoming freshman, as well as two locally produced surveys, and the Library Anxiety Scale (338). The study was clearly complex, and the results consider a lot of interesting questions.

Gross, Melissa, and Don Latham. "Undergraduate Perceptions of Information Literacy." *College & Research Libraries* 70, no. 4 (2009): 336-350.

In this article the authors compare student's self-perceptions with their scores on the Information Literacy Test (ILT). As in their previous article (op.cit.) they use "competency theory" as a frame for understanding why people (particularly those at a lower skill level) tend to overestimate their abilities (337). Specifically they are looking at incoming freshman (including in their sample students with differing levels of academic achievement), and looking at how they define information literacy (339). Their cohort consisted of 20 students, most of who were from "the top ten percent of the class" (340). Data on student self-perceptions and understanding of information literacy was gathered through an interview process (339). Students were then given the ILT (340). The bulk of the findings constituted of a qualitative analysis of the interview transcripts.

Head, Alison J. "Information Literacy from the Trenches: How Do Humanities and Social Science Majors Conduct Academic Research?" *College & Research Libraries* 69, no. 5 (2008): 427-45.

The author studied the actual information seeking behavior of students who were majoring in the humanities and social sciences (428). Information was collected from student discussion groups, a student survey, and a content analysis of professors' research assignment handouts (427). The student discussion groups had 13 participants. The groups met twice for 1 1/2 hours. The discussions were about students' research habits, behaviors and experiences. The student survey consisted of 15 questions about how upper classmen conducted course related research. The questions were based on information gathered from the student discussion groups. The third method of gathering information was to analyze thirty handouts that had been given to students in the last two years by their professors (431). The results of the study showed that students reach for the most convenient sources first (434). Also notable was the students' need for "high-touch" one-on-one assistance from professors and librarians (434). The authors also found that many of the students surveyed did use library resources and understood their value (436).

Hignite, Michael, Thomas M. Margavio, and Geanie W. Margavio. "Information Literacy Assessment: Moving beyond Computer Literacy." *College Student Journal* 43, no. 3 (2009): 812-821.

Describes the "Information and Communications Technology exam" used as part of a course in the College of Business at Missouri State University. The author offers an "ANOVA" analysis of the results. The author discusses briefly why the students did not do better on the test.

Houlson, Van. "Getting Results from One-Shot Instruction." *College & Undergraduate Libraries* 14, no. 1 (2007): 89-108.

This is a thorough description of a series of 3 workshops that were designed under the heading of "Unraveling the Library." The author includes discussion of the pedagogical theories behind the curriculum for the series. The lesson plans for each workshop was standardized making it easy to train new librarian instructors (92). The workshops were each concluded with a brief reflection paper. Students were asked to list what was most useful, "something not known about the library before" and "something about the library that they might want to share with others" (101-102). The second workshop in the series also included a multiple-choice quiz (103). The author summarizes the results from the assessments over several semesters.

Hsieh, Cynthia, and Lorrie Knight. "Problem-Based Learning for Engineering Students: An Evidence-Based Comparative Study." *The Journal of Academic Librarianship* 34, no. 1 (2008): 25-30.

Hsieh and her colleagues at the University of the Pacific did a comparative study of the effectiveness of problem-based learning versus a standard library lecture for first year engineering students (25). The study began with the design of learning outcomes in collaboration with the engineering faculty (27). This ensured that the lecture based classes and the classes that used a problem-based learning scenario covered similar content. All students were given a short quiz, and a set of reflective questions to respond to (27). Since the initial pilot study did not demonstrate enough of a difference to be useful, they did an "enhanced study" with a revised assessment (27). The enhanced study did demonstrate that problem-based learning was more effective (28).

Hsieh, Ma Lei, and Hugh A. Holden. "The Effectiveness of a University's Single-session Information Literacy Instruction." *Reference Services Review* 38, no. 3 (2010): 458-473.

Hsieh and her colleagues at Rider University describe an assessment tool that was used to examine the effectiveness of standard lecture based library instruction in a general education information technology course. As part of the study "The pre- and post-tests (summative instrument) and a student survey (formative instrument) were installed on the University's Course Management System (CMS)" (461). The assessment instruments were revised over several semesters. The post-test scores were generally higher each semester (464). The authors do review which questions were consistently more challenging for students. They also discuss questions about the research design (466-467).

Hufford, J.R. "What Are They Learning? Pre-and Post-assessment Surveys for LIBR 1100, Introduction to Library Research." *College & Research Libraries* 71, no. 2 (2010): 139-158.

Texas Tech University has offered a one-hour credit Introduction to Library Research. This course teaches the basics of library research. In 2008 the librarians developed and administered pre- and post-assessment surveys. The students had to compile an extensive annotated bibliography on a topic of their choice, the assessment surveys focused on determining what students had learned or, more precisely, what they knew (143). The author reached the following conclusion about assessment and student learning: the average score of the students as a group increased by 13 points on the post-test; however, "the overall percentage of correct answers on both the pre- and the post-

assessment surveys was quite low” (150). This suggests that the students enrolled in LIBR100 did not learn as much as the librarian-instructors intended (150).

Ishimura, Yusuke, Vivian Howard, and Haidar Moukdad. “Information Literacy in Academic Libraries: Assessment of Japanese Students’ Needs for Successful Assignment Completion in Two Halifax Universities.” *Canadian Journal of Information and Library Science* 31, no. 1 (2007): 1-26.

This is a summary of a small-scale project that used focus groups to examine the information literacy skills and behaviors of Japanese students studying at two Halifax universities. The authors demonstrate the value of having a native speaker to question international students. They also demonstrate the use of qualitative coding methods when dealing with focus group transcripts. This is a narrow context, but an interesting demonstration of a particular research methodology.

Johnson, C. M., C.M. Anelli, B.J. Galbraith, and K.A. Green. “Information Literacy Instruction and Assessment in an Honors College Science Fundamentals Course.” *College & Research Libraries* 72, no. 6 (2011), 533-547.

Johnson and others at Washington State University integrated information literacy instruction into a science course. This is an article that will be of particular interest to science librarians; it gives a comprehensive analysis of a science oriented information literacy curriculum. It is also an excellent demonstration of what is possible when librarians work intensely with classroom instructors.

Julian, Suzanne, and Kimball Benson. "Clicking Your Way to Library Instruction Assessment." *College Research Libraries News* 69, no. 5 (2008): 258-260.

Julian and Benson have written a brief overview of using "clickers" in library instruction. The strongest selling point that they suggest is that students are more likely to answer honestly using clickers, versus being asked to raise their hands (259). Since they are administering a survey, it is not surprising that they bring up question design as an important issue (260).

Karshmer, Elana, and Jacalyn E. Bryan. "Building a First-Year Information Literacy Experience: Integrating Best Practices in Education and ACRL IL Competency Standards for Higher Education." *The Journal of Academic Librarianship* 37, no. 3 (2011): 255-266.

All students at Saint Leo University are required to take Introduction to the University Experience. This course has a library component that the authors redesigned. The librarians revised the course to have 4 segments. The first and second of these segments required that students watch three short videos (259). The third segment was an active learning activity. The student had to complete a worksheet using the library's resources. It also included a group library activity which "was intended to encourage cooperative learning among the members of each team" (259). The last segment was "the Library Jeopardy game" (260). Based on information from the evaluations students and instructors completed, the revision of the curriculum was well received (265). The program will be further revised based on comments from the students.

Kim, K.S., and S.C. J. Sin. "Selecting Quality Sources: Bridging the Gap Between the Perception and Use of Information Sources." *Journal of Information Science* 37, no. 2 (2011): 178-188.

This article focuses on "undergraduates working on course-related academic research, this study aims to understand their source selection behavior from the users' perspective" (179). The authors begin by examining the different possible reasons why students tend to use less than credible sources. Data collection was done through an online survey distributed via email (180). The survey asked that the student rate different sources. Several types of analyses were applied to the results. The authors then make some suggestions about the implications of the results for information literacy instruction. This is a very interesting example of looking at a critical skill from the users' point of view.

Knecht, Mike, and Kevin Reid. "Modularizing Information Literacy Training via the Blackboard eCommunity." *Journal of Library Administration* 49, no. 1-2 (2009): 1-9.

Knecht and Reid describe a project at Henderson Community College that moved the content that used to be offered in a library workbook to Blackboard. Specifically in Blackboard they took advantage of the eCommunity function, which stood outside the regular course structure and therefore could persist over several semesters (2). They broke the information down into short modules. Each module was made up of a short text document and supplementary video and audio clips (5). Each module included a survey (a pre-test) and a post-test (6). Because the content was within Blackboard, it was a simple matter to collect the grades generated by the assessment (6). The authors state that

the flexibility of the module format has made it possible to generate content on a wide range of topics, often with the collaboration of the classroom faculty (6).

Larsen, Peter, Amanda Izenstark, and Joanna Burkhardt. "Aiming for Assessment: Notes from the Start of an Information Literacy Course Assessment." *Communications in Information Literacy* 4, no. 1 (2010): 61–70.

The University of Rhode Island needed systematic assessment tool for a 3-credit, full-semester information literacy course. They looked at several models which included Educational Testing Service's (ETS) *ICT Literacy Assessment Test*, *Project SAILS*, and the *Bay Area Community College Information Competency Proficiency Exam* (BACC). An adaptation of the Bay Area Community College Information Competency Proficiency Exam was used. One benefit this exam is that each question maps to the appropriate ACRL Information Literacy Standard. The author concludes that the assessment value of the instrument is solid.

Leeder, Chris, Karen, Markey, and Elizabeth Yakel. "A Faceted Taxonomy for Rating Student Bibliographies in an Online Information Literacy Game." *College & Research Libraries* 73, no. 2 (2012): 115-133.

The authors are looking at measuring the quality of the bibliographies which were an outcome of an online information literacy game called "Bibliobouts" (115). They have developed a "faceted taxonomy" for doing qualitative analysis of the sources. The taxonomy was meant to be a "fine-grained rating system that describes the multiple facets of these information sources" (120). The taxonomy was also meant to be "format neutral" (120). Each source was graded on the following facets: "Information Format," "Literacy Content," "Author Identity," "Editorial Process," and "Publication Purpose" (123, Table

3). Five scores were generated and then totaled (124). The faceted taxonomy was used to evaluate bibliographies from players of "bibliobouts," with non-players serving on the control group. The scores for those who had volunteered to play the game were slightly higher than those of the control group. The initial sample size was very small (15 and 15), which limits whether or not the outcome can be generalized (130). Nevertheless, this article represents the development of an interesting instrument.

Maitaouthong, Therdsak, Kulthida Tuamsuk, and Yupin Techamanee. "Development of the Instructional Model by Integrating Information Literacy in the Class Learning and Teaching Processes." *Education for Information* 28, no. 2-4 (2010): 137-50.

The authors present a research project where information literacy instruction was integrated into two general education classes, using problem-based learning techniques. Assessment of the results included not only quantitative assessment, with a pre-test and a post-test (141), but also a range of qualitative assessment tools. Observers sat in on the classes and observed the behavior of both the teachers and the students (142). This is a very detailed model that considered every aspect of teaching practice.

Markey, Karen, Fritz Swanson, and Andrea Jenkins. "Will Undergraduate Students Play Games to Learn How to Conduct Library Research?" *Journal of Academic Librarianship* 35, no. 4 (2009): 13-303.

The authors conducted a study to determine if students could learn research and become information literate by playing games. Games had many features that would help the students to learn. According to the author these are "game players get results by trial and error, they stumble across things, follow hunches, repeat actions over and over until they get them perfect, and assume new identities, projecting their hopes, values, and fears

onto their new identity instead of shouldering the burden on their real-life identity. Game playing that takes place online could boost students' participation and acceptance because they could play anytime and anywhere” (304). The research project team developed a web-based board game which gave players experience with library-research (304). At the end of the research team analyzed the game logs and interviewed students. The authors concluded from the students’ interviews that when the students were asked what they learned, the students highlighted the “how-to” aspects connected with library research; they did not however “explicitly say that the game taught them how to think about what they were doing” nor give them “opportunities to do so” (311).

McCulley, Carol. “Mixing and Matching: Assessing Information Literacy.”
Communications in Information Literacy 3, no. 2 (2009): 171-80.

This paper reviews a variety of assessment methods. These include pre and post test, surveys and classroom assessment techniques such as asking for feedback. The author states that she combines variety assessment tools with to analyze her instruction methods. This is an overview of a whole range of different methods, discussed in the context of the author’s teaching practice.

McMillen, Paula, and Anne-Marie Deitering. “Complex Questions, Evolving Answers: Creating a Multidimensional Assessment Strategy to Build Support for the ‘Teaching Library’.” *Public Services Quarterly* 3, no. 1/2 (2007): 57-82.

McMillen and Deitering describe the evolution of a “multidimensional assessment strategy” at Oregon State University (66). This article addresses the evolution of an assessment program from the point of view of pedagogy and cross campus collaboration,

as well as details about the different kinds of assessment strategies that they used over time. They began by “defining learning outcomes” in partnership with the writing program (68). They participated in Project SAILS in an attempt to gather qualitative data (69). They used focus groups and also worked on redesigning a “research log assignment” (70-71, 72). They stress the value of collaboration with “campus partners” (69).

Mery, Yvonne, Jill Newby, and Ke Peng. “Assessing the Reliability and Validity of Locally Developed Information Literacy Test Items.” *Reference Services Review* 39, no. 1 (2011): 98-122.

The authors, all librarians at the University of Arizona (Tucson), developed a local information literacy test for a “credit-bearing, asynchronous” online, one credit information literacy course (99). In order to produce “statistically valid and reliable tests,” the authors created a 3-phase development project (99). The first phase used “focus groups, reflection papers, discussion forums and university teacher-course evaluations” (100). The second phase focused on developing a local test with the help of a “doctoral student with a background in statistics” (100). The authors describe the process of developing a large pool of “test items” (102). The third phase included randomizing the test items, giving groups of students different versions of the test (104). Classical test theory (CTT) and item response theory (IRT) were used to do statistical analyses, looking at “difficulty level” and the “discrimination index” (105). This is a very interesting and thorough look at test development.

Mulherrin, E, and Husein Abdul-Hamid. "The Evolution of a Testing Tool for Measuring Undergraduate Information Literacy Skills in the Online Environment." *Communications in Information Literacy* 3, no. 2 (2010): 204-215.

The focus of the article is on developing an assessment tool for an online credit bearing library instruction class. The research was done at University of Maryland University College. The authors discuss the different methods of assessment that were used over a 5 year period. These include pre- and post-test, pre-assessment survey, a final exam and two research logs.

Niedbala, Mona Anne, and Jay Fogleman. "Taking Library 2.0 to the Next Level: Using A Course Wiki for Teaching Information Literacy to Honors Students." *Journal Of Library Administration* 50, no. 7/8 (2010): 867-882.

Niedbala and Fogleman designed a new curriculum for an education course and piloted it with an honors section. They used a wiki, which provided "a virtual space for communication, collaboration, research, writing, teaching and learning" (870). The project centered around the "educational context report" that is a centerpiece for the course (873). The class had three face-to-face library instruction sessions, which allowed careful step by step scaffolding of the research process (875). At the end of the course the students were asked to complete a survey, evaluating the new curriculum (877-878).

Nichols, James T. "The 3 Directions: Situated Information Literacy." *College & Research Libraries* 70, no. 6 (2009): 515-530.

Nichols sets out to create a new theoretical model of information literacy that will account for the behavior and the needs of more advanced students who are working in the disciplines. He worked closely with a small group of students, using interviews and

email journals (516). Based on detailed analysis of his subjects, he generated a model that he labeled “The 3 Directions.” His students moved through three “dimensions or directions... actions and products...cognition...and the participation dimension ...” (317). This is not a one dimensional model, students were observed to be moving forward in each of these layers at the same time, but each layer represented a different level of cognitive growth. The model was then used to help update the undergraduate information literacy learning outcomes for SUNY Oswego.

Oakleaf, Megan. “Rubrics to Assess Information Literacy: An Examination of Methodology and Interrater Reliability.” *Journal of the American Society for Information Science and Technology* 60, no. 5 (2009): 969-983.

In this article Oakleaf defines rubrics and presents a model for using rubrics for the assessment of information literacy skills. Oakleaf is arguing for the use of rubrics as an assessment tool. This study is meant to examine the reliability of rubrics, by examining if they can be used by multiple “raters” and produce consistent scores (970). The authors produced a “full-model, analytic rubric” to assess an open-ended “web-site authority prompt” taken by 800 students (972). A sampling of 75 responses was randomly selected from the original group (974). The researcher then “scored each of the 75 responses three times using the scoring rubric” (975). Responses were then distributed to groups of raters both on and off campus, with a training process in place to encourage consistency. The author then examines the levels of agreements among different groups of scorers. This is a ground-breaking study that raises some interesting questions.

---. "The Information Literacy Instruction Assessment Cycle: A Guide for Increasing Student Learning and Improving Librarian Instructional Skills." *Journal of Documentation* 65, no. 4 (2009): 539-560.

Oakleaf presents a conceptual framework for a "cycle" of information literacy assessment. This is based on the idea that assessment is a tool for learning (540). Oakleaf asserts that "As a result, thoughtfully designed assessments can enhance the students' abilities to become life-long learners" (541). The cycle walks through the entire process, including relating learning goals to instructional design, teaching, gathering assessment data, interpreting it, acting on the results, and beginning the cycle again. This article provides a valuable framework for a beginning assessment program. Case studies are then offered, to illustrate the application of the theory.

Pinto, M. "Design of the IL-HUMASS Survey on Information Literacy in Higher Education: A Self-assessment Approach." *Journal of Information Science* 36, no. 1 (2010): 86-103.

This article describes the process of creating a standardized information literacy test for a target population, specifically students entering humanities and social sciences programs at several Spanish and Portuguese Universities. This particular test was constructed from an "attitudinal perspective," evaluating not only knowledge, and skills, but also attitudes toward information literacy (90). The process as described included very carefully getting a review of the proposed test from many different stakeholders at the various institutions involved in the study.

Pinto, M., and D. Sales. "Insights into Translation Students' Information Literacy Using the IL-HUMASS Survey." *Journal of Information Science* 36, no. 5 (2010): 618-630.

This is a follow-up to the article by the same author (op.cit.) that described the process of creating the IL-HUMASS survey. This article is an account of deploying this survey among approximately 600 translation and interpretation students among 3 Spanish universities. The authors provide a detailed description of the aggregated responses to the survey. The project is an interesting window on the motivations, and self reported strengths and weaknesses of a fairly sophisticated population. Among many other things they discovered "very small role played by the library in the learning process of the surveyed population" (628). A very interesting project, both in terms of the results and the variables surveyed.

Polkinghorne, Sarah, and Shauna Wilton. "Research is a Verb: Exploring a New Information Literacy-Embedded Undergraduate Research Methods Course." *Canadian Journal of Information and Library Science* 34, no. 4 (2010): 457-473.

This article describes a research methods course in the political science discipline that was collaboratively designed by a political science professor and an information literacy librarian. Assessment of information literacy was conducted through the assignments that were integrated into the course. These included reflective papers, as well as two skills self-assessments (one at the beginning of the course, and one at the end). The authors also interviewed the students at the end of the course, and reviewed and coded the interview transcripts using discourse analysis methods. This article shows the potential for intensely course integrated instruction as a new information literacy model.

Resnis, Eric et al. "Information Literacy Assessment: A Case Study at Miami University." *New Library World* 111, no. 7/8 (2010): 287-301.

Resnis et.al. describe a project that was created by a Faculty Learning Community at Miami University. The FLC "for improving student research" is cross-disciplinary, but led by a librarian (288). They describe how "In the 2008/2009 academic year the participants wanted to determine how students perceived their own searching skills, how they looked for information, and where they searched" (288). The group chose to create a survey to administer to their classes (288). They were able to get responses from 300 students in 15 classes from a wide range of disciplines (289). The authors discuss some of the more notable findings from the dataset. Members of the Community than revised or redesigned their curriculum in response to the findings of the survey.

Scaramozzino, Jeanine. "Integrating STEM Information Competencies into an Undergraduate Curriculum." *Journal of Library Administration* 50, no. 4 (2010): 315-333.

Scaramozzino presented here an overview of the information literacy instructional program that has been implemented at the College of Science and Mathematics at Cal Poly State University, San Luis Obispo. Described as a "progressive, stepwise research instruction program," it includes a wide variety of instructional tools, and assessment practices, including "creation of podcasts, assignments and quizzes" (322). This is particularly notable because it is an example of integrating information literacy into a curriculum, allowing for a coherent, progressive presentation.

Samson, Sue. "Information Literacy Learning Outcomes and Student Success." *The Journal of Academic Librarianship* 36, no. 3 (2010): 202–210.

The author uses Scharf's definition of information literacy as the process of evaluation of information, critical thinking, revision and integration (202). Assessing the skills is not done well by standardized testing. In her study the author uses alternative methods to assess. The students complete a portfolio or a research paper. The participants are first year students in English Composition classes and upperclassmen in a capstone course. The objectives of the study "were to: 1) quantify learning outcomes based on the five ACRL standards using student portfolios; 2) compare the selective use of information resources between first-year and capstone students; 3) compare the relative use of information resources between first-year and capstone students; and 4) identify significant patterns of learning outcomes to inform the library's information literacy curriculum" (202). The author concludes that "this paper...quantifies learning outcomes and establishes benchmarks for first -year and capstone student populations, offers conclusions based on comparative data between the student populations, informs the library's information literacy instruction program, and correlates identifiable learning outcomes within the established information literacy rubric" (209).

Samson, Sue and Merinda McLure. "Library Instruction Assessment Through 360°." *Public Services Quarterly* 3, no. 1/2 (2007): 9-28.

Samson and McLure describe the comprehensive assessment program at the University of Montana. The program includes a form of a one minute paper, student feedback forms, teacher feedback forms, librarian instructor evaluations, and teaching portfolios. This was a very worthwhile and thought-provoking article.

Scharf, D et al. "Direct Assessment of Information Literacy using Writing Portfolios." *The Journal of Academic Librarianship* 33, no. 4 (2007): 462-477.

The authors stated that librarians' primary method of assessment is using surveys and multiple choice tests. They felt these methods only provided limited information. The librarians collaborated with the classroom faculty to find another assessment method. Their study "had three objectives (1) to create an adaptable and replicable assessment model using student portfolios, (2) to employ this model to design a baseline assessment of the information literacy abilities of our own students, and (3) to use the results of the assessment to address instructional issues raised by the assessment" (463). For the assessment study, research term papers from the writing portfolios of graduating seniors taking a required capstone seminar in the humanities were examined. From the writing portfolios the following five areas were analyzed "citation, evidence of independent research, appropriateness, integration, and overall information literacy portfolio score" (465). The authors concluded "this study fulfilled our objectives by providing a model that allowed a quantitative base-line assessment of the information literacy skills of a representative sample of our students" (471).

Schroeder, Randall, and Kimberly Babcock Mashek. "Building a Case for the Teaching Library: Using a Culture of Assessment to Reassure Converted Campus Partners While Persuading the Reluctant." *Public Services Quarterly* 3, no. 1/2 (2007): 83-110.

Schroeder and Mashek have written a case study, looking at the creation of a "culture of assessment" in the Wartburg College Library, and its role in promoting "Information Literacy Across the Curriculum" (84). They define a culture of assessment

as meaning “every aspect of an organization is assessed...[and] every assessment will usually result in change” (85). This is a very comprehensive description of a very thorough program of assessment, including the mission statements that provide the philosophical background (87). Assessment exists on several different levels, including pre-tests and post-tests, research logs, and citation analysis of senior projects (90).

Assessment of information literacy skills is also integrated into the curriculum (90). The authors do stress that “assessment must result in real changes as data warrants” (93). The article concludes with a description to expanding the culture of assessment to include usability testing of the library website (98).

Seely, Sara Robertson, Sara Winstead Fry, and Margie Ruppel. “Information Literacy Follow-Through: Enhancing Preservice Teachers’ Information Evaluation Skills Through Formative Assessment.” *Behavioral & Social Sciences Librarian* 30, no. 2 (2011): 72-84.

This article describes the outcome of intensive work with a social studies curriculum course in a teacher education program. The project in question focused on source evaluation as a fundamental information literacy skill. The authors demonstrated the effectiveness of two different types of formative assessment. The first was immediate feedback after instruction -- answers on scrap paper to the twin questions “What is clear?” and “What is muddy?” (78). In addition the authors provided feedback to the writers on the first draft of selected sources for use in the final project. It is interesting that the authors chose to return to the class for a 20 minute review session, after seeing the results of the assessment (79). This opportunity to provide specific feedback, rather than “offering a one-time library workshop and hoping for the best” is one of the outstanding outcomes of this study (82). The authors conclude with a plea that librarians

consider using formative assessment techniques. This was a very interesting and thought-provoking read.

Sharma, Shikha. "From Chaos to Clarity: Using the Research Portfolio to Teach and Assess Information Literacy Skills." *Journal of Academic Librarianship* 33, no. 1 (2007): 127-35.

This article discusses a case study which uses portfolios in an information literacy course. Information literacy skills were taught to all freshmen taking ENG 110/111 course. Skills were reinforced in upper level major courses. The success of the students acquiring information literacy skills depended on their disciplinary interests and even the courses that they take and when they take them. For the assessment of the one credit course web-based portfolios were used. Assessment of the portfolios demonstrated that students were still struggling with "evaluative skills"(133). Portfolio assessment is time-consuming, but does give a much broader picture of a student's information literacy skills than the traditional assessment (133).

Shonrock, Diana D., and Sue R. Crull. "Information Literacy and Cooperative Learning: A Global Housing Project." *Public Services Quarterly* 6, no. 1 (2010): 1-18.

Shonrock and Crull describe a collaborative course, where information literacy goals and assessment are completely integrated into the course. The authors asked the students to do a mini-journal used for process analysis (9). Summative assessment was done by using rubrics and traditional grades to evaluate the projects (10). Students also sat an objective exam that was graded by the instructor (11). After the exam the students evaluated the course (11).

Smale, Maura A., and Mariana Regalado. "Using Blackboard to Deliver Library Research Skills Assessment: A Case Study." *Communications in Information Literacy* 3, no. 2 (2010): 142-157.

The authors developed a pilot program to assess for the library instruction. There is a required library session as a part of English 2 course. The librarians used a pre- and post-quiz to evaluate student's learning. The quizzes were multiple choice and were administered using Blackboard. There were 22 questions which could be completed in 30minutes. The pilot was successful, but the authors noticed the "limitations" of Blackboard (151).

Sobel, Karen, and Kenneth Wolf. "Updating Your Tool Belt: Redesigning Assessments of Learning in the Library." *RUSQ* 50, no. 3 (2011): 245-258.

The authors collected the assessment tools that were being used by their colleagues, and considered which "factors of learning" each covered (246). As part of their literature review they also present "a partial list of assessment formats described in literature since 2000," which gives an excellent overview (247). A collection of assessment tools was gathered from their colleagues (249). Based on the types of tools that were being used, a standardized packet of tools were put together, including "a pretest/posttest set, a posttest, and activities," and used with freshman composition classes (249). This made it possible to assess across several different classes taught by different librarian instructors (250). The authors then discuss the assessment results in some detail. The result of the study is significant feedback on the strengths and weaknesses of each tool (253).

Somerville, Mary M., and Barbara Schader. "Toward Large Scale Assessment of Information and Communication Technology Literacy: Implementation Considerations for the ETS ICT Literacy Instrument." *Reference Services Review* 35, no. 1 (2007): 8-20.

Somerville and Schader offer the theory behind the ETS ICT (which seeks to test both information literacy skills and information technology skills), and a case study, to encourage the adoption of the ETS instrument (9-10). The authors represent two University of California campuses (Northridge and San Luis Obispo), which were part of the beta testing. Contrasting the implementation experiences on two very different campuses is very effective. The librarians at Northridge had considerable trouble recruiting students to take the test (12). The librarians at San Luis Obispo, dealing with a resident population, had an easier time of it, but had to offer significant incentives, which they acknowledge may not work on all campuses (15). "Wide-scale testing" is difficult to fit into the academic calendar (15). The authors do stress the importance of working with stakeholders across campus on a large scale assessment project like this one (16).

Somerville, Mary M., Gordon W. Smith, and Alexius Smith Macklin. "The ETS iSkills Assessment: A Digital Age Tool." *The Electronic Library* 26, no. 2 (2008): 158-171.

The authors advocate for a broader information and communications technology (ICT) literacy, and describe the development and piloting of a standardized test in partnership with the Educational Testing Service (ETS). The paper includes detailed information about the content of the iSkills™ test. The use of the test at Purdue, including details about the kind of errors that were produced, is also described. The authors advocate for a large scale, standardized assessment tool.

Sonley, Valerie et al. "Information Literacy Assessment by Portfolio: A Case Study." *Reference Services Review* 35, no. 1 (2007): 41-70.

This article describes the use of the student portfolio as an assessment tool in a credit-bearing course. The authors begin with a discussion of "reliability, validity, and utility" as important measures of the usefulness of any assessment instrument (42). This particular course was designed for a population of part-time adult learners (43). A guided structure was chosen for the portfolio assignment, to ensure that the learning objectives would be accomplished (49). Development of the portfolio was partly done through classroom exercises, providing the opportunity for formative feedback (50). The portfolio structure is included as an appendix to the article.

Staley, Shannon M., Nicole A. Branch, and Tom L. Hewitt. "Standardized Library Instruction Assessment: An Institution-Specific Approach." *Information Research: An International Electronic Journal* 15, no. 3 (2010): n.pag.

The authors do assert that "pre- and post-tests are a successful means of measuring library institutional efficacy at the institution level" (3). This reviewer finds that a little surprising. It's interesting that they advocate customized discipline specific tests (6). The particular study focused on "junior-level psychology courses"(7). Their design process was very meticulous (including having the questions reviewed by discipline faculty and the University assessment office). This is a long article, but the outline for the study is very clear, and very systematic.

Tancheva, Kornelia, Camille Andrews, and Gail Steinhart. "Library Instruction Assessment in Academic Libraries." *Public Services Quarterly* 3, no. 1/2 (2007): 29-56.

Tancheva, Andrews, and Steinhart describe the assessment efforts undertaken by the staff of the Albert R. Mann Library at Cornell University. Three distinct phases of assessment are described. The first phase used focus groups and a statistical survey (34). The second phase used a pre-test / post-test form of outcomes assessment (41). The third method discussed was "gap-measure assessment," using a "web based survey" (47). The results of each assessment project are given in some detail.

Teske, Boris, and Brian Etheridge. "Information and Communication Technology Literacy among First-Year Honors and Non-Honors Students: An Assessment." *Journal of the National Collegiate Honors Council* 11, no. 1 (2010): 83-109. <http://digitalcommons.unl.edu/nhcjournal/290>.

The authors describe the administration of the iSkills™ test to a group of freshman at Louisiana Tech (86). The authors then review and compare the scores of the honors and non-honors students, in each skill area measured by the iSkills™ test (87). The results of the assessment are being used to spark redesigning the curriculum in this area (108).

Thirion, Paul, and Bernard Pochet. "Information Literacy in Students Entering Higher Education in the French Speaking Community of Belgium: lessons learned from an evaluation." *IFLA Journal* 35, no. 2 (2009): 152-170.

In an attempt to recreate a study that originally took place in Quebec, the authors adapted the original questionnaire and sent it to about 4000 incoming freshman. The goal was to understand better the information literacy skills that students have when entering

college. Their response rate was about 42%, which provided an effective sample size across several institutions (155). They correlated the students' responses with the mother's educational level (156). They also compared the results to the original study (158). The results of the questionnaire were closely examined. The general outcome was a reminder that incoming students generally have weak information literacy skills and will need a lot of training to succeed in higher education (168).

Thomas, Judy, and Clarissa Gosling. "An Evaluation of the use of 'Guides at the Side' Web-Based Learning Activities to Equip Students in Health Sciences and Nursing with Information Literacy Skills." *New Review of Academic Librarianship* 15, no. 2 (2009): 173-186.

Thomas and Gosling come from The Open University in the UK. The Open University is a distance learning institution, which presents unique challenges to the library, in terms of offering information literacy training. They created information literacy tutorials that were integrated into particular courses. They used what that dubbed "Guides at the Side" – instructions appearing on a split screen, next to live web sites that the student needed to interact with (177). Distinct modules were used at different points in the course (181). The students that were taking the course were then surveyed by the Institute of Educational Technology to get feedback on the effectiveness of the tutorial (182). The results of the survey are discussed.

Tronstad, Bryan et al. "Assessing the TIP online information literacy tutorial." *Reference Services Review* 37, no. 1 (2009): 54-64.

Librarians at the University of Wyoming Libraries have offered their students an online tutorial called the "Tutorial for Information Power" (TIP) since 2001 (55). In order to gain greater understanding of the effectiveness of TIP in the Fall semester 2007, just over 1000 students participated in a research study that included a pre-test and a post-test (58). Along with tracking the scores, the time it took students to complete each task was tracked (58). The authors offer a detailed statistical analysis of the outcome. The conclusion discusses the value of online tutorials, but also acknowledges problems with the test design (62).

Van Helvoort, Jos. "A Scoring Rubric for Performance Assessment of Information Literacy in Dutch Higher Education." *Journal of Information Literacy* 4, no. 1 (2010): 22-39.

The author begins with an interesting commentary on educational reform movements in Dutch Higher Education. As the focus on student-centered learning increases, the real need for significant and substantial information literacy training increases (23). The focus of the project was on the development of a tool for "credit bearing performance assessment" (23). The literature review included a significant critique of testing as a measurement of having mastered a particular skill (24). The author goes into considerable detail about the process of developing a rubric. The rubric was then offered to classroom faculty as a tool for assessing the information literacy competencies that are shown in a particular paper.

Wakimoto, Diana K. "Information Literacy Instruction Assessment and Improvement through Evidence Based Practice: A Mixed Method Study." *Evidence Based Library and Information Practice* 5, no. 1 (2010): 82-92.

The author used pre- and post-tests and focus group transcripts to measure the effectiveness of a required Information Literacy course at California State University, East Bay. The open ended questions used in the study are included as an appendix. It's not clear why the assigned content of the course (homework, exams, etc.) could not be used to answer these questions. When the author states that the results of her study contradicts the anecdotal evidence that students find the class boring, she does not describe how she selected the sections to study. The quality of the teaching is not a variable that should be ignored.

Walsh, Tiffany R. "Evolution of an Information Competency Requirement for Undergraduates." *Journal of Web Librarianship* 5, no. 1 (2011): 3-23.

This article chronicles the evolution of The Library Skills Workbook (<http://library.buffalo.edu/libraries/gethelp/librarianskillsworkbook/>) as a "non-credit bearing information competency assessment" that is required for University of Buffalo students (3). The workbook has moved onto Blackboard as an administrative course, and is required, usually in the first year. Blackboard offers several advantages, including using the "pool manager" to have the questions each student gets be randomized, and the fact that students can retake the whole workbook, or sections of it, as needed. The article relates that "Students who fail the Workbook receive an e-mail asking them to meet with a librarian in order to fulfill their Workbook requirement" (13). This flexibility is useful,

because it focuses the attention of the librarians on those who need extra support. This is an interesting model for providing instruction and assessment campus-wide.

Walton, Geoff, and Mark Hepworth. "A Longitudinal Study of Changes in Learners' Cognitive States During and Following an Information Literacy Teaching Intervention." *Journal of Documentation* 67, no. 3 (2011): 449-79.

Walton describes an information literacy intervention that was structured around the idea of "cognitive states and constructivist approaches to learning" (450). The focus of the project was on "evaluating information sources" (450). Walton begins his literature review by looking at the debates surrounding the idea of information literacy, and whether or not it can be successfully taught (450). The author outlines the shift from treating information literacy as simply another term for library instruction to seeing it as "a set of critical thinking skills involving the use of information" (451). He is setting out to show that these "higher order cognitive skills" can be taught to undergraduates. The focus of the research was on the use of "online social network learning activities" for delivering instruction, contrasted with a face to face workshop (459). Essentially, the online networking site provided the students with the ability for group discussion and problem solving.

This paper is written in technical language and is difficult to read -- however he does make an important point about the value of online discussion boards in engaging students "in high-level cognitive processes" (461). Although it is complex, this study does support the idea that group discussion, as an active learning technique, had a significant impact on the experimental group in comparison with the other groups. The author also describes "How and why OSNL works" (469).

Weaver, Kari D., and Penni M. Pier. "Embedded Information Literacy in the Basic Oral Communication Course: From Conception Through Assessment." *Public Services Quarterly* 6, no. 2-3 (2010): 259-270.

Weaver and Pier collaborated on the restructuring of a basic speech class to include information literacy concepts throughout the course. The authors describe how "The librarian designed worksheets that were integrated into the course workbook, with an information-seeking activity for each assignment" (264). To further assess the success of the new curriculum the "oral communication team collected and relied upon instructor observations, qualitative self-report data from students, quantitative data monitoring traffic in the library and campus-wide conversations with faculty about the course" (266). This article is interesting not only as an example of embedded librarianship, but also because of a conscious effort to assess the outcome systematically.

Wilcox, Kimberley. "Navigating the Assessment Current: Developing an Information Literacy Assessment Program." *Christian Librarian* 51, no. 1 (2008): 18-24.

Wilcox offers a comprehensive overview of assessment of student learning outcomes within the library, suitable for readers who are looking for an introduction. This is followed by a brief overview of assessment as it is practiced at Azusa Pacific University. Their program has experimented with several different types of assessment. They tried large-scale assessment with a standardized test, but had trouble recruiting subjects (23). They have since shifted to "locally developed web-based assessment and in-class worksheets" (23). This is an informative discussion of the difficulties inherent in launching a library assessment program.

Williams, Michelle Hale, and Jocelyn Jones Evans. "Factors in Information Literacy Education." *Journal of Political Science Education* 4, no. 1 (2008): 116-130.

This is an account of a political science curriculum that was infused with the principles of information literacy. Assignments that were meant to cultivate information literacy skills were offered several times during the semester. Assessment took several forms, including a pre-test (early in the semester, and a post-test after the research paper went in), as well as a traditional research paper. The "grading matrix" for the paper included information literacy principles (118).

Zoellner, Kate, Sue Samson, and Samantha Hines. "Continuing Assessment of Library Instruction to Undergraduates: A General Education Course Survey Research Project." *College & Research Libraries* 69, no. 4 (2008): 370-383.

Librarians at the University of Montana designed a pre-test and post-test sequence to measure the effectiveness of "a research module embedded into ... Introduction to Public Speaking" (370). The assessment focused on confidence, perceptions and "assistance-seeking attitudes" (370). The goal of the project was to look at possible revisions in the curricula of the target course (371). The results of a statistical analysis of the surveys are presented. In the conclusion the authors do admit that there may not be a correlation between research confidence and research skill (379).