Information Literacy Report

Librarians teach students how to develop the information skills they need for success in college and throughout their lives. Through the information literacy program, the librarians teach students to be critical thinkers, during the research process, so that they can evaluate the merit and validity of any information. Information literacy instruction is particularly useful for any class that includes a research component.   Incorporating library research into a class assignment helps students better understand how to select and evaluate relevant research.

The library staff encourages all instructors, at all course levels, to work with the librarians to create assignments that help reinforce their students' information literacy skills. Classes can be scheduled for any time that the library is open. The length and content of the library research classes are tailored to the needs of each class. For each information literacy class, the librarian will create a unique LibGuide that is relevant to that class and even to a particular assignment.

Information literacy is taught in a variety of formats:

- LSC 101 (Research Methods)—one credit course. In Fall 2013, LSC 101 was offered as an independent study. In Spring 2014, LSC will be offered as a one-credit online course. All librarians have undergone a training program through Academic Technology in order to be able to offer and teach an online course.
- One-shot classes
- Online tutorial
- One-on-one interactions
- Honors Program collaboration

The library supports distance learning initiatives by providing information literacy instruction off-campus through an online tutorial, and in the Spring of 2014, through a one-credit course—LSC101 "Research Methods". A reference librarian is a member of ITFAC (Information Fluency Across the Curriculum) Team and its open education resources (OER) efforts. The librarians collaborate to create a LibGuide for open access resources for online courses.

The library's liaison program helps ensure that the resources are sufficient to support the curriculum. The librarians work collaboratively with the faculty to enhance their courses. Each academic department has a library liaison who acts as a contact person and an advocate. The library liaisons answer questions about programs, information literacy classes, resources, and services. The liaisons also help departments address accreditations and program review needs.

In 2009, the librarians completed a 2 year program review which assessed information literacy instruction. Results of that review follow:

Year 2 - Assessment

Evidence of Student Learning and Use of Assessment Results

Assessment is an on-going process of inquiry into what and how well students learn against our criteria and standards of judgment. The process is outlined below:

During Year 2 we have chosen to evaluate Library Outcome 2 from our Year One Program Outcomes, "*Apply critical analysis and reasoning skills to refine and distill a search strategy, to analyze the results of a search, and to make decisions about the most appropriate resources.*" To this end, the library began offering a basic course in Information literacy, LSC 101 during the Fall '08 semester. This course teaches research skills that can be applied to all levels of research, from personal interests to scholarly topics. We decided to use the final project in this course as a means of assessing the library's information literacy goals.

Our research question is, "At what level are the students enrolled in the library's Research Methods course (LSC 101) applying critical analysis and reasoning skills to refine and distill a search, to analyze the results of a search, and to make decisions about the most appropriate sources?"

These skills are assessed through a portfolio, assembled by students during the course, which contains records of the various steps followed in researching a topic of their choice. Some students use a research project they are doing for another class, and some choose a topic of personal interest. Required parts of the portfolio include Background Sources, a Research Plan, a Research Log, Source Evaluation Sheets, Citation Templates, and a Works Cited Page. We examined the students' portfolios and compared the students' research logs and plans with their works cited page to determine their research proficiency.

We created a rubric to use in evaluating students' work. This rubric allows us to grade the portfolio and test eight competencies in the research course. The first competency is to be able to create an explicit research plan. Steps in doing this include stating a general topic and broad subject areas, answering the questions, "Who, What, When, Where, and Why", to come up with a more specific topic in the form of a question. The second and third competencies involve using a research log with tables to help build effective vocabulary and search strings; key elements are use of Boolean operators and various information sources. The next competency is selecting information sources with the appropriate scholarly level for the topic. In the next three competencies students must be able to evaluate their sources for relevance to their question, credentials of the author or agency, and timeliness. The last competency is to provide proper citation information and requires that the student produce an accurate works cited page.

All students in the Fall 2008 and Spring 2009 sections of LSC101 were included in the assessment project, a total of 18 students in 4 sections. All identifying information was removed from each of the student's materials. The two reference librarians from each campus scored each portfolio individually

with the rubric, then reconciled their results. Only one section, #4, was given the rubric along with the explanation of the students' final project. In the other three sections students did not receive the rubric.

Library Rubric

	Beginner	Proficient	Advanced
1. Creates explicit research plan and question (Three Background Sources and Research Plan)	Research plan only includes one subject area related to topic and uses only one general reference source to create working knowledge of topic; cannot articulate or formulate research question.	Research plan includes only two to three subject areas related to topic and student only uses general reference sources when creating working knowledge of topic; research question is too general.	Research plan includes comprehensive listing of subject areas related to topic and the use of one general and at least two subject specific reference sources to create working knowledge of topic; research question is multi-concepted and specific.
2. Builds effective vocabulary (Research Log, page 1)	Student generates only one alternative keyword per concept.	Student generates one synonym, one broader term and one narrower term per concept.	Student generates two or more synonyms, broader terms and narrower terms per research concept.
3. Builds and implements effective search strategies (Research Log, page 2)	Student creates only one search string; does not use Boolean operators; uses only one search tool.	Student creates two to three search strings using only one Boolean operator; uses two search tools.	Student creates four or more search strings using two or more Boolean operators; uses three or more search tools.
4. Selects appropriate information sources for topic (Evaluation Sheets/ Portfolio)	Two or more sources or formats are missing from portfolio; in more than three of the sources the research level is too low, mostly popular sources are selected.	One source or format is missing from portfolio; only three to four sources are appropriate level for research topic.	Uses required number of sources and formats for portfolio; the research level (scholarly or general) of five or more sources is appropriate for research topic.
5. Evaluates relevance of sources (Evaluation Sheets /Portfolio)	In more than three of the sources the content does not pertain to topic or is too general or contradictory to support research question.	In only three to four of the sources the content is related to the research topic and supports research question.	In five or more of the sources the content is related to the research topic and supports research question.
6. Evaluates reliability/ authority of sources (Evaluation Sheets/ Portfolio)	Less than three sources have authors or sponsoring organizations with established credentials in the field or subject area.	Only three to four sources have authors or sponsoring organizations with established credentials in the field or subject area.	For five or more sources, author or sponsoring organization have established credentials in the field or subject area.
7. Evaluates age of sources (Evaluation Sheets/ Portfolio)	Less than three sources have publication dates that are appropriate to subject.	Publication dates of only three to four sources are appropriate to subject.	Publication dates of five or more sources are appropriate to the subject.
8. Provides proper citation information (Citation	Three or more elements are missing from citations. Less	One to two elements are missing from citations. Five	No more than one element is missing from citations.

| **Templates and NoodleBib Works Cited page)** | than four sources are correctly cited. | to seven sources are correctly cited. | Eight or more sources are correctly cited. |

Interpretation of Data

The Danvers raters scored students fairly evenly across the categories with close to one third of the students falling into each level of the rubric. There was a slight difference in percentages: 36% fell into the Advanced category, 35% into the Proficient category, and 29% into the Beginner category.
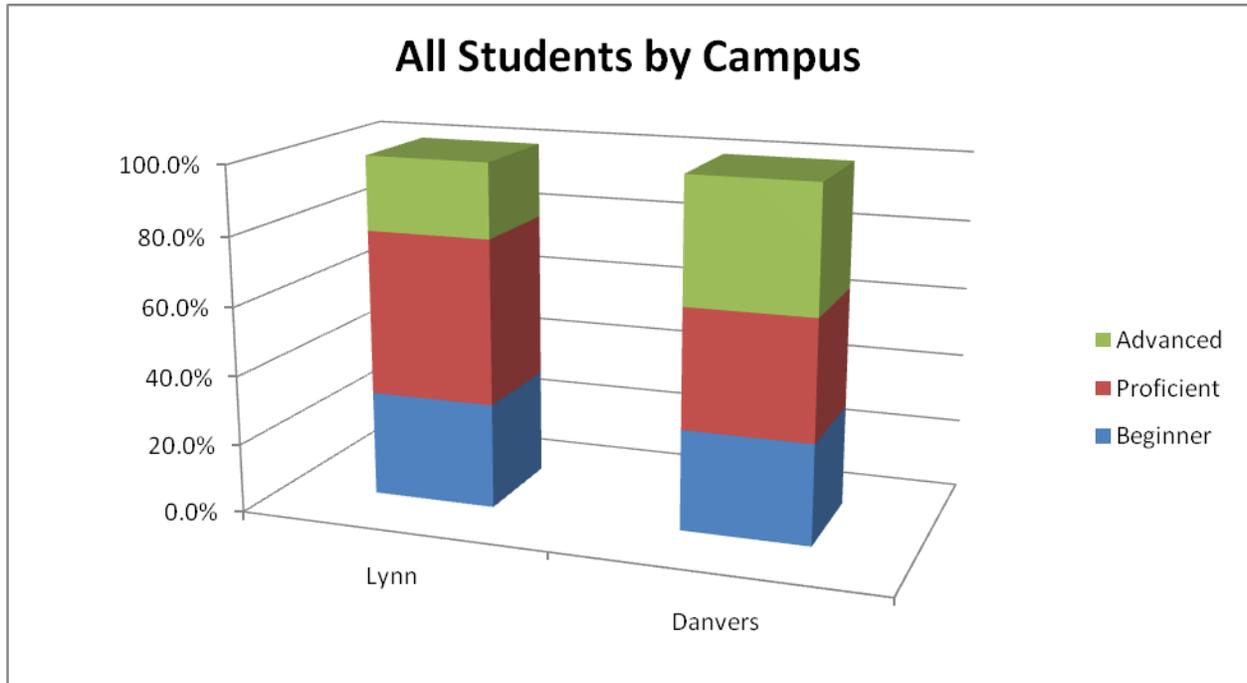
The Lynn raters, however, scored the majority of students in the Proficient category; at 48%; almost half of the students fell into this category. The next highest category was Beginner, with 31% of students ranked here, followed lastly by the Advanced students with only 22% of the rated students scoring at this level.

The Danvers team had an inter-rater reliability score of 77%, while the Lynn team had an inter-rater reliability score of 49%. It is interesting to note that the raters at the Danvers campus had both taught the course, while the raters at the Lynn campus had not taught the course.

Although the students in Section 4 of the course were the only ones given the rubric along with an explanation of the prompt, it does not appear from our data that this helped the students score more in the Advanced level; however, the small class size (only two students) makes it hard to draw a valid conclusion.

Results of Scoring
All Sections Danvers & Lynn

	Beginner	Proficient	Advanced
1. Creates explicit research plan and question (Three Background Sources and Research Plan)	Research plan only includes one subject area related to topic and uses only one general reference source to create working knowledge of topic; cannot articulate or formulate research question.	Research plan includes only two to three subject areas related to topic and student only uses general reference sources when creating working knowledge of topic; research question is too general.	Research plan includes comprehensive listing of subject areas related to topic and the use of one general and at least two subject specific reference sources to create working knowledge of topic; research question is multi-concepted and specific.
	3 / 16.7% 5 / 27.8%	**7 / 38.9% 11 / 61.1%**	**8 / 44.4% 2 / 11.1%**
2. Builds effective vocabulary (Research Log, page 1)	Student generates only one alternative keyword per concept.	Student generates one synonym, one broader term and one narrower term per concept.	Student generates two or more synonyms, broader terms and narrower terms per research concept.
	10 / 55.6% 8 / 44.4%	**7 / 38.9% 7 / 38.9%**	**1/ 5.6% 3 /16.7%**
3. Builds and implements effective search strategies (Research Log, page 2)	Student creates only one search string; does not use Boolean operators; uses only one search tool.	Student creates two to three search strings using only one Boolean operator; uses two search tools.	Student creates four or more search strings using two or more Boolean operators; uses three or more search tools.
	9 / 50% 9 / 50%	**9 / 50% 9 / 50%**	**0 / 0% 0 / 0%**
4. Selects appropriate information sources for topic (Evaluation Sheets/Portfolio)	Two or more sources or formats are missing from portfolio; in more than three of the sources the research level is too low, mostly popular sources are selected.	One source or format is missing from portfolio; only three to four sources are appropriate level for research topic.	Uses required number of sources and formats for portfolio; the research level (scholarly or general) of five or more sources is appropriate for research topic.
	2 / 11.1% 4 / 22.2%	**6 / 33.3% 8 / 44.4%**	**10 / 55.6% 6 / 33.3%**
5. Evaluates relevance of sources (Evaluation Sheets/Portfolio)	In more than three of the sources the content does not pertain to topic or is too general or contradictory to support research question.	In only three to four of the sources the content is related to the research topic and supports research question.	In five or more of the sources the content is related to the research topic and supports research question.
	2 / 11.1% 4 / 22.2%	**3 / 16.7% 7 / 38.9%**	**13 / 72.2% 7 / 33.3%**
6. Evaluates reliability/authority of sources (Evaluation Sheets/Portfolio)	Less than three sources have authors or sponsoring organizations with established credentials in the field or subject area.	Only three to four sources have authors or sponsoring organizations with established credentials in the field or subject area.	For five or more sources, author or sponsoring organization have established credentials in the field or subject area.
	2 / 11.1% 3 / 16.7%	**6 / 33.3% 10 / 55.6%**	**10 / 55.6% 5 / 27.8%**
7. Evaluates age of sources (Evaluation Sheets/Portfolio)	Less than three sources have publication dates that are appropriate to subject.	Publication dates of only three to four sources are appropriate to subject.	Publication dates of five or more sources are appropriate to the subject.
	1 / 5.6% 1 / 5.6%	**8 / 44.4% 10 / 55.6%**	**9 / 50% 7 / 38.9%**
8. Provides proper citation information	Three or more elements are missing from citations. Less than four sources are correctly	One to two elements are missing from citations. Five to seven sources are correctly	No more than one element is missing from citations. Eight or more sources are correctly cited.
	13 / 72.2% 10 / 55.6%	**4 / 22.2% 7 / 38.9%**	**1 / 5.6% 1 / 5.6%**

Danvers results

For the Danvers raters the following competencies that needed improvement stood out:

- Only one person (5.6%) scored in the Advanced category for competency 2, being able to effectively build vocabulary; the majority of students fell into the Beginner category (55.6%).

- Zero students scored in the Advanced category for competency 3, being able to build and implement effective search strings; students were evenly split between the Beginner and Proficient categories.

- Students scored very poorly on competency 8, being able to properly cite their sources; the majority of students fell into Beginner category (72.2%), with only one student in the Advanced category (5.6%).
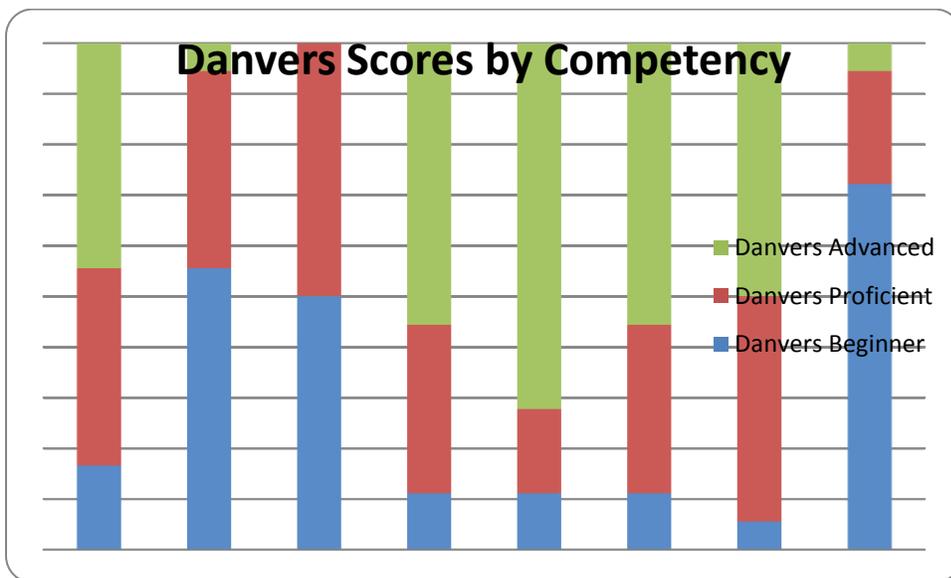
Danvers raters scored the majority of students in the Advanced column for the following:

- Competency 3, selecting the appropriate research level for their sources (55.6%)

- Competency 4, choosing sources where the content was related to the topic (72.2%)

- Competency 5, selecting sources where the author had established credentials in the field (55.6%)

- Competency 6, choosing sources with publication dates appropriate to the student's research subject (50%)

Finally, the Danvers raters scored most students in the Proficient (38.9%) or Advanced (44.4%) columns for criteria 1, the competency that tests whether or not students could create an explicit research plan and question.

Lynn results

Although overall the Lynn raters tended to score students more in the Proficient category, similar patterns emerged for the Lynn campus raters in terms of the different competencies, with low scores in competencies 2, 3, and 8.

- Lynn raters placed most students in the Proficient category (61.1%) for competency 1, being able to create an explicit research plan and question, followed by 27.8% in the Beginner category and 11.1% in the Advanced category.

- Only 16.7% of students scored in the Advanced column for competency 2, ability to build effective vocabulary; 44.4% fell into the Beginner category and 38.9% fell into the Proficient category.

- On competency 3, building and implementing effective search strategies Lynn rated zero percent of the students as Advanced and split students evenly into the Beginner and Proficient categories.

- Lynn raters scored the majority of students in either the Proficient or Advanced columns for competencies four through seven, with relatively low figures in the Beginner columns. Only 22.2% were Beginner level for selecting appropriate information sources for topic, only 22.2% for evaluating relevance of sources, only 16.7% for evaluating reliability/authority of sources, and only 5.6% for evaluating age of sources.

- For competency 8, creating a works cited or reference page, Lynn raters placed 55.6% in the Beginner category, 38.9% in the Proficient category, and 5.6% in the Advanced category.
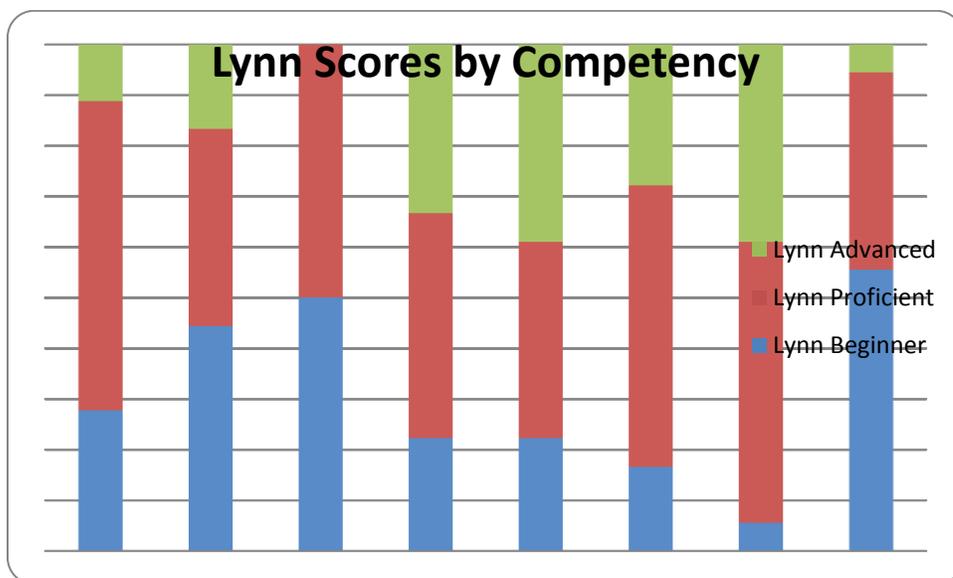
Conclusions

It is apparent from the grading of the rubric, with both sets of raters, that a change in pedagogy should be focused on competencies 2 (builds effective vocabulary), 3 (builds and implements effective search strategies), and 8 (provides proper citation information).

Closing the Loop

F.1. a. Procedural changes

- Hand out copies of grading rubric to students.

b. Changes in Instruction/Pedagogy

- Revise and increase the size of the grading rubric by separating items where necessary to insure all items are evaluated fairly.

- Create examples of revised Research Plan and Research Log to help students build effective vocabularies and implement effective search strategies.

- Review and update handouts.

- Introduce citation formats and NoodleBib earlier in the semester.

- Institute an instructional team approach, introducing other Librarians to the students and the process. Conduct regular meetings to discuss instructional needs, problems and successes.

- Incorporate more interactive activities, such as student-led instruction, peer-to-peer evaluations, hands-on opportunities (in Lynn) and more group discussion.

c. Increased Use of Educational Tools

- Explore the use of electronic portfolios.

- Utilize advanced features of Angel to foster different approaches to communication.

- Incorporate additional tutorials to reinforce concepts discussed in class.

- Demonstrate free Web tools that are available where appropriate.

d. Increased Use of Enrichment Activities or Support Services

- Let students know about resources outside the library that are available at the college—The Writing Lab, Tutoring Center, Adaptive Lab, etc.

F 2 a. How and when will you determine if student learning has improved under the kinds of suggested changes listed above? At the completion of the Spring 2010 semester, we will compare the results of the library grading rubrics for the Fall 09 and Spring 2010 semesters with the rubrics from Fall 08 and Spring 09 semesters.

Action Plan

Last year's action plan called for implementing a 1 credit course by Fall of FY10. As described earlier in this document, we have instituted this course, now called LSC 101, in Fall, FY09, and have taught four sessions of it.

ACTION PLAN, Year 1

Goals	Action Steps	Proposed Expense	Proposed Resources	Proposed Timetable
Increase "Information Literacy" and "Research Methods" teaching opportunities	a. Implement 1 credit class b. Implement 3 credit class with English faculty	a. no expense b. Librarian salary	a. Librarians b. Additional FT librarian	a. Fall FY10 b. Fall FY12

Action Plan , Year 2

Goals (Outcomes)	Department/Program Needs	Steps to Achieve Needs	Timeline	Resources Needed
Changes that Engage Students in their Learning	Increase student motivation & performance in LSC 101	Change course grading from Pass/Fail to a letter grade	Fall '09	Librarians
		Handout grading log (rubric) at the beginning of the	Fall '09	Librarians

		course		
		Implement new Active Learning activities	Fall '09 / Spring '10	Librarians
Changes in Curriculum/Instruction/ Pedagogy	Improve student understanding of search vocabulary and search string structure	Create examples of Research plan & Logs.	Fall '09	Librarians
	Improve course materials	Review and update current handouts	Fall '09	Librarians
	Improve inter-rater reliability	Revise and increase the size of the grading rubric by separating items when necessary to insure all items are evaluated fairly	Fall '09	Librarians
	Improve students' understanding of citing and plagiarism	Begin Noodlebib instruction earlier in the semester	Fall '09	Librarians
	Improve continuity and quality in teaching	Institute an instructional team approach Introduce library team to students, conduct regular team meetings	Fall '09	Librarians
	Address different learning styles	Incorporate more Interactive activities: Student-lead instruction, peer evaluations, hands-on opportunities (in Lynn), and more group discussion	Fall '09 / Spring '10	Librarians

Increased Use of Educational Tools	Better methods for collecting student work	Explore the possible use of electronic portfolios	Fall '10	Software to create portfolios
	Improve communication and student engagement	Utilize advanced features of Angel	Fall '10	Librarians and more Angel training
	Provide alternative learning opportunities for students	Incorporate additional tutorials and multimedia applications	Fall '10	Librarians
	Improve student productivity in and out of the classroom	Demonstrate free Web tools when applicable	Spring '10	Librarians
Increased Use of Enrichment Activities or Support Services	Increase student success	Introduce students to services available on campus (Writing Lab, Tutoring Center, Adaptive Lab, etc.)	Fall '09	Librarians / Collaborations with other departments