

**Student Learning in Library Research Instruction  
for Critical Writing, Reading and Research I & II**

**Assessment Report for Academic Year 2009-2010**

Reported by Debbie Campbell, Instructional Services Coordinator  
15 June 2010

**Introduction**

Serving as a model of the integration of library skills into the first-research instruction program seeks to empower students to become information literate. The program is designed not only to teach information retrieval skills, but also the importance of the critical analysis and evaluation of information used in academic research and everyday life. The research instruction program assesses student learning through the use of a pre-test completed in IN150 and post-test in IN151. Results from academic year 2009-2010 show an increase in average scores from the pre- to the post-test, with significant improvement on individual questions. Modifications were made to the assessment content to improve clarity and bring the assessment up to date with current information literacy session activities. The assessment was also modified so that it could be administered in the class sessions via clickers, and as such, post-test completion rates were at an all time high. Overall, the student learning in the research instruction program continues to be strong.

**Goals**

research instruction for CWRR is stated in

CWRR learning goals:

1. including the differentiation between Library-provided resources and Internet resources.
2. The student will recognize what constitutes plagiarism through a discussion on how to avoid it, and how to cite sources.
3. The student will demonstrate an understanding of bfrom the pre

The student will demonstrate an understanding of basic concepts of information retrieval and database function by successfully outlining a search strategy that demonstrates the ability to retrieve appropriate and relevant periodical articles, books, and Internet resources.	1, 3
The student will demonstrate the application of evaluative criteria in the selection of information, regardless of source or format, through exercises that demonstrate their ability to differentiate resources.	1, 3

**Snapshot**

The research and instruction librarians devote a majority of their instructional activities to the CWRR program. During the 2009-2010 academic year, the librarians conducted 98 sessions for in-sequence CWRR classes, and 10 sessions for the off-sequence sessions. For IN150, this includes one session per section. For IN151, research instruction is the equivalent of one week; this includes three sessions for MWF sections and 2 sessions for T/Th sections. Debbie Campbell coordinates the research instruction program, and shares in the instruction with librarians Cindy Fuller, Denise Green, Joe Hardenbrook, and Amanda Pippitt. The Instructional Services Coordinator, as with the other librarians, reports to the Library Director.

**The Learning Story**

First-level research begins in his/her first year through CWRR. The librarians play an integral part in preparing students to become information-savvy. Although most first-year students are what has popular culture, their technology skills do not necessarily translate into well-developed information seeking skills. Anecdotal evidence shows that, like most college freshmen, those students entering Millikin display an over-reliance on using the free web for information, and do not critically evaluate the information that they do use. This is where the Research and Instruction Librarians come into play. The librarians introduce students to the library catalog, article databases, and web sites of academic quality through hands-on sessions, as well as classroom dialogue on plagiarism and how to evaluate different sources and types of information.

**Assessment Methods**

The 2009-2010 academic year was the fourth complete year of data collected via a pre- and post-test. The assessment questions were modified for the 2009-2010 academic year, thus making direct question-to-question comparison to results from previous years partially unavailable (See Appendices C & D for more information). For the 09-10 academic year, the pre-test was administered via a quiz in Moodle before the students in IN150 met with a librarian, and the post-test data was collected during the library instruction sessions via clickers. Data from off-sequence and PACE CWRR sections was disregarded due to the small survey sample.

**Assessment Data**

Information Literacy Skills Assessment (IN150 pre-test)

Skills Assessment consisted of 16 questions. Results (n=351) from the Fall 2009 sections of IN150 show that the average score was **62%**. See Appendix A for a full list of results.

Information Literacy Assessment Quiz (IN151 post-test)

Quiz consisted of 16 questions. Results (n=varies by question) from the Spring 2010 sections of IN151 show that the average quiz score was **75%**. Students improved their score on average by **13%** on the post-test, when compared with the pre-test overall. See Appendix A for a full list of results.

### **Analysis of Assessment Results**

From Spring 2006 through Spring 2009, the pre- and post-test questions had remained consistent (henceforth called the Original Set ), but as of Spring 2009, some of the skills emphasized during library sessions were not being measured by an assessment question, and several questions assessed were no longer emphasized.

As a result, the pre and post-test questions were reviewed and modified during the summer of 2009 to better reflect the content covered/emphasize The wording of questions was adapted to provide more clarity on questions which had historically confused students (Original Set # 5 and #2 were reworded, and Original Set questions #1 & #8 were removed).

Due to falling completion rates on the Moodle based post-test assessment (traditionally completed by students outside of class time after their final library instruction session), for Spring 2010, the librarians chose to administer the post-test questions in-class during the last few minutes at the end of each library session, thus increasing completion rates and have a more accurate sample. In order to better fit the functionality of the Clickers as an assessment tool, some of the assessment questions were also modified for formatting- i.e. Original Set question #4 was divided into Revision #s1-3 since the Clickers cannot facilitate matching style questions.

This updated set of questions (henceforth called the 2009 revision ) were first used for the Fall 2009-Spring 2010 year. A full list of both sets of these questions and answers is available in Appendix F; for the data gathered from the 2009-2010 assessment data gathered from to the 2009 Revision questions, see Appendix A

Between pre-test and post-test, students showed an average score increase of 13%, with several individual questions showing a significant increase of greater than 10%. These questions are listed in the following table.

Question Number	Pre-Test Percentage	Post-Test Percentage	% Increase
3	61%	80%	19%
5	27%	75%	48%
6	46%	75%	29%
7	50%	65%	15%
8	62%	74%	12%
16	54%	73%	19%

Although question #4 showed improvement from pre-test to post-test, during the in-class Clicker assessment, many students vocalized confusion with the wording of this question, despite displaying an understanding of the process through the in-class activities. As such, if the traditional pre- and post-test are used for the 2010-2011 academic year, this question will need to be rewritten for clarity. With question #14, during the in-class Clicker assessment, many students commented that

for future in-  
future modifications to the CWRR Library Instruction program and assessment.

Grouping each of the quiz questions with the corresponding Staley Library learning goal(s) allows the librarians to measure the effectiveness of instruction. The ratings coincide with the CWRR Artifact Performance Indicators Scale (Based on Percents), with Nominal (Red-Stop) 0-52%, Adequate (Yellow Caution) 53-74%, Excellent (Green-Go) 75-100%.

Learning Goal	Rationale	Rating
1. Library Resources  (Question Numbers: 1,2,3,4,5,7)	Pre-Test: 56% (62% removing question #4) Post-Test: 73% (81% removing question #4)  When all questions for this section are averaged together they score 73%, if question #4 is removed because of student confusion with the wording as explained above, the average percentage for this goal increases to 81%. In the table above, three of the questions associated with this goal showed greater than 10% improvement between pre-test and post-test. So despite the lower average percent for this goal, the student improvement for these questions is substantial.	<b>Yellow (Green)</b>
2. Plagiarism/Citing Sources  (Question Numbers: 14, 15,16)	Pre-Test: 67% Post-Test: 78%  Question 15 was added to the assessment to provide students with the opportunity to think about timing in regards to the recording of citation information, to make the citation process easier.  Due to issues with the way the data gathered from the clickers and Moodle can be compared, data from question #14 is not included in the percentage for this goal.	<b>Green</b>
3. Retrieval of Information  (Question Numbers: 4,5,6,7,8)	Pre-Test: 42% (46% removing question #4) Post-Test: 64% (72% removing question #4)  When all questions for this section are averaged together they score 64%, if question #4 is removed because of student confusion with the wording as explained above, the average percentage for this goal	<b>Yellow</b>





Question 3: What is an ABSTRACT?					
Choices (correct answers highlighted)	Number of Students Choosing Each Answer Choice (PRE-TEST)	Number of Students Choosing Each Answer Choice (POST-TEST)	Percent of Students Answering Entire Question Correctly (PRE-TEST)	Percent of Students Answering Entire Question Correctly (POST-TEST)	Corresponding Staley Library Learning Goals
<b>Brief summary of an article.</b>	<b>214</b>	<b>287</b>	<b>61%</b>	<b>80%</b>	<b>1</b>
Use this to find a book on the shelf.	19	9			
When the entire article you need is available online.	23	9			
Requesting an item not owned by Staley Library.	70	26			
	22	30			
Totals	351	361			

Question 4:					
Choices (correct answers highlighted)	Number of Students Choosing Each Answer Choice (PRE-TEST)	Number of Students Choosing Each Answer Choice (POST-TEST)	Percent of Students Answering Entire Question Correctly (PRE-TEST)	Percent of Students Answering Entire Question Correctly (POST-TEST)	Corresponding Staley Library Learning Goals
CDs and videos	198	135			1, 3
<b>Articles</b>	<b>92</b>	<b>107</b>	<b>26%</b>	<b>33%</b>	
Books	0	9			
Magazines, Journals, & Newspapers	58	78			
Totals	351	329			

Question 6: Choose one statement that is NOT TRUE about Scholarly Articles.





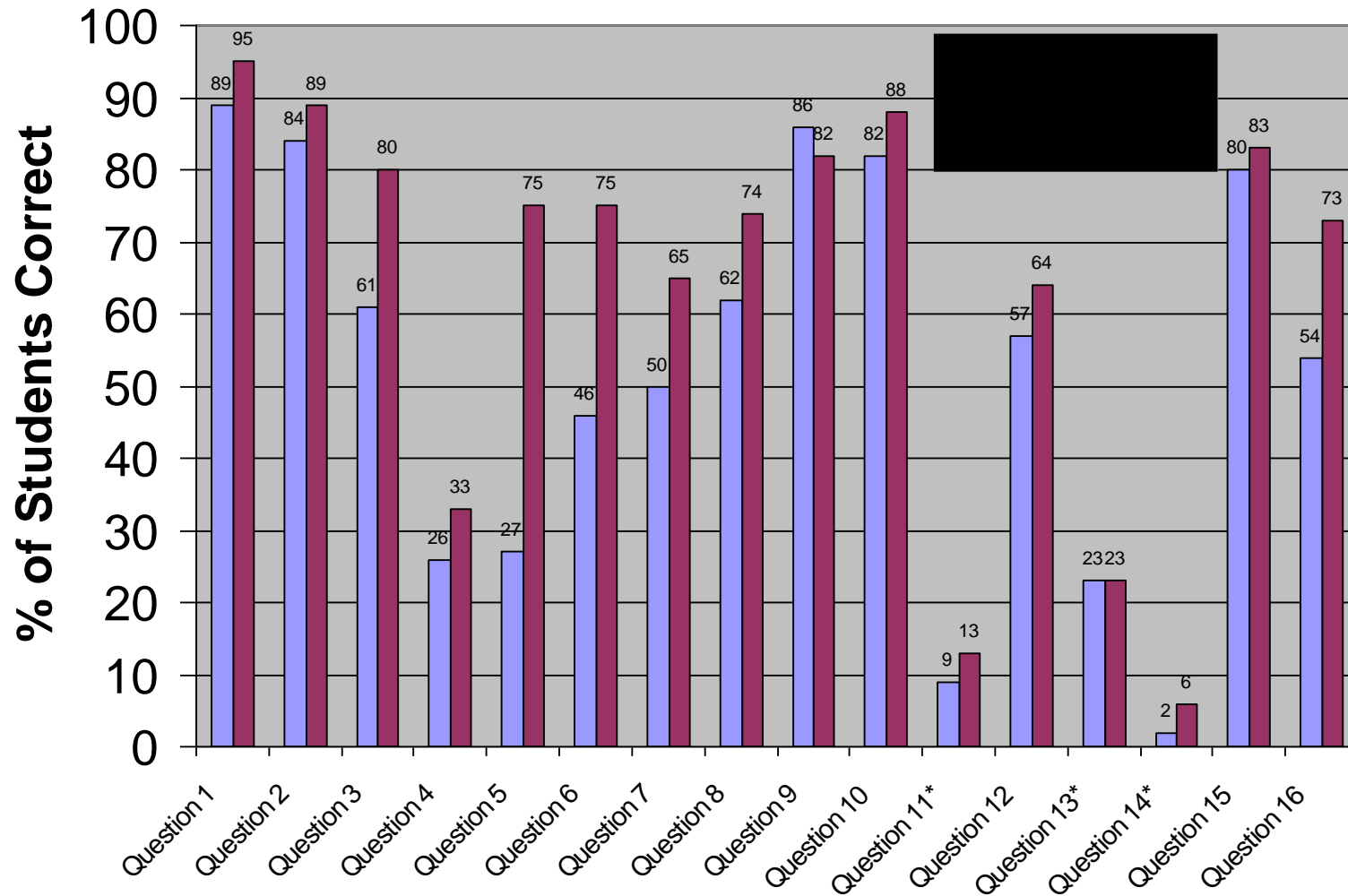
Question 12: You are writing a report on automobile tires and safety. You have found several sources. Which would be the most trustworthy because of the likelihood of having unbiased, factual information?					
Choices (correct answers highlighted)	Number of Students Choosing Each Answer Choice (PRE-TEST)	Number of Students Choosing Each Answer Choice (POST-TEST)	Percent of Students Answering Entire Question Correctly (PRE-TEST)	Percent of Students Answering Entire Question Correctly (POST-TEST)	Corresponding Staley Library Learning Goals
Report from an automobile manufacturer association	114	48			4

Question 15: When is the BEST time in the research process to record the citation information for a source?					
Choices (correct answers highlighted)	Number of Students Choosing Each Answer Choice (PRE-TEST)	Number of Students Choosing Each Answer Choice (POST-TEST)	Percent of Students Answering Entire Question Correctly (PRE-TEST)	Percent of Students Answering Entire Question Correctly (POST-TEST)	Corresponding Staley Library Learning Goals
<b>The first time you access a source you might want to use.</b>	<b>278</b>	<b>207</b>	<b>79%</b>	<b>83%</b>	<b>2</b>
After you have finished writing the section of the paper that uses information from a source.	58	18			
When the teacher asks for proof that you did not plagiarize the information in the paper.	6	19			

Appendix B

This chart shows the comparison between the Pre-Test and Post-Test for the 2009-2010 academic year. The pre-test was administered via Moodle (Fall 2009) before the students attended any library sessions, and the Post-Test was administered (Spring 2010) via Clickers at the end of the corresponding library session.

### AY 2009-2010 Information Literacy Pre- and Post-Test Scores



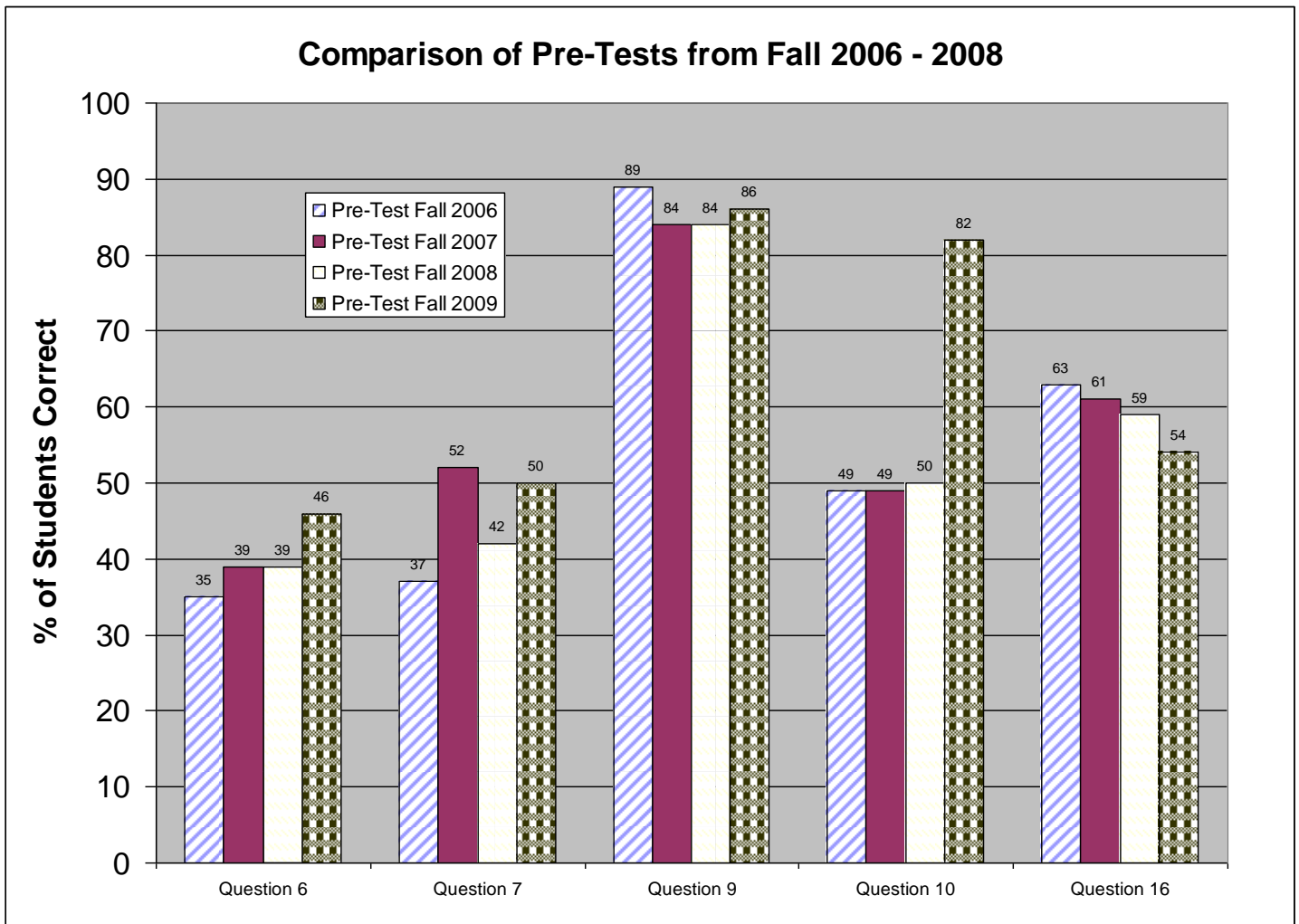
\*For questions 11, 13, and 14- due to a discrepancy in how Moodle and the Clickers record data for questions with multiple correct answers, the data represented in the chart for these questions is the percentage of total incorrect answers / total number of answers given per question.

## Appendix C

The questions asked in the Pre and Post-Test for 2009-2010 were modified; some questions were

## Appendix D

The questions asked in the Pre and Post-Test for 2009-2010 were modified; some questions were unchanged from the previous version of the assessment (Original Set, 2006-09), so for those questions, comparative data is provided in the following chart.



While the wording of the questions remained the same, the question number changed. The Question numbers in the chart above correspond to the 2010 numbering. The explanation below shows how these question numbers correspond with the original 2006-2009 assessment.

- Question 6 (2009-10) = Question 6 (2006-09): Choose one statement that is NOT TRUE about Scholarly...
- Question 16 (2009-10) = Question 9 (2006-09): What type of material is the following citation?...
- Question 7 (2009-10) = Question 10 (2006-09): Your professor gave you an assignment to find journal...
- Question 9 (2009-10) = Question 12 (2006-09): The website [www.feedthechildren.org](http://www.feedthechildren.org) likely belongs to...
- Question 10 (2009-10) = Question 13 (2006-09): Say you are writing a paper about gun violence...



Original Set question #2 was reworded to become 2009 Revision question #4. This question was modified so that students would now choose which items the library online catalog DOES NOT contain information for finding ( instead of all it DOES contain information for finding- as it was worded in the Original Set). Since the question asks for the same data in a different format, the questions were not



This chart converts the original data from 2007-2009 into the DOES NOT contain question format, thus making the data comparable. The number of student choosing the correct answer for this question, "The

Appendix F

Original Set

7. Say you need to do research on the topic drug problems among athletes. Your first step is to identify some keywords that will help you search for information. Which of the following is NOT a good keyword to get useful results? (choose one)
- a. drugs
  - b. athletes
  - c. steroids
  - d. problems
  - e. sports
8. The library periodical databases are freely accessible on the web to anyone from anywhere. True or False? (choose one)
- a. True
  - b. False
9. What type of material is the following citation? Katz, Marco. "Salsa Criticism at the Turn of the Century: Identity Politics and Authenticity." *Popular Music and Society* 28 (2005): 35-54. (choose one)
- a. It is a book
  - b. It is a journal article
  - c. It is a newspaper article
  - d. It is music recording
10. Your professor gives you an assignment to find journal articles about global warming. What should you do? (choose one)
- a. Search a library periodicals database for journal articles about global warming
  - b. Browse the journals in the current periodicals section of the library until you come across an article about global warming
  - c. Search MILLINET, the Library catalog
  - d. Use an Internet search engine (such as Google or Yahoo)
11. If you were looking for current information on U.S. gasoline prices, which TWO sources would be the best? (choose two)
- a. encyclopedia
  - b. book
  - c. journal article
  - d. newspaper article
  - e. internet
12. The website [www.feedthechildren.org/](http://www.feedthechildren.org/) likely belongs to a: (choose one)
- a. Commercial or for-profit business
  - b. U.S. government agency

13. Say you are writing a paper about gun violence and you use information from the National Rifle Association (NRA) website. In this example, which website evaluation criterion do you need to pay attention to the most? (choose one)

a. Bias/Objectivity/Accuracy

b. Currency/Timeliness

c. Functionality/Website easy to navigate

d. The website's domain (does the web address end in .com, .org, .edu, .net)

14. Suppos

4. What type of material is the following citation (choose one type) Purnell-Webb, Patricia and Craig P. Speelman. "Effects of Music on Memory for Text." *Perceptual & Motor Skills*

11. Say you are writing a paper about gun violence, and you use information from the National Rifle Association (NRA) website, www.nra.org. In this example, which website evaluation criterion do you need to pay attention to the most? (choose one).

- a. Currency/timeliness
- b. Bias/objectivity/accuracy.
- c. Functionality of the website.
- d. Number of visitors to the website.

12. Let's say you are looking for CURRENT information on U.S. gasoline prices, which TWO sources would be the best? (choose two).

- a. Encyclopedia
- b. Journal Article
- c. Book
- d. Newspaper Article
- e. Internet

13. Encyclopedias and other reference works (including wikipedia.org) are useful because they often provide: (choose all that apply)

- a. A bibliography or a list of additional resources for further reading.
- b. An overview of the topic, including background and introductory information.
- c. Entries written by the foremost expert on the topic in the world.
- d. All of the possible information about a topic.

14. You are writing a report on automobile tires and safety. You have found several sources.

Which would be the most trustworthy because of the likelihood of having unbiased, factual information?

- a. Report from an automobile manufacturer association.
- b. Survey from a tire company.
- c. Article in a consumer reporting magazine