

Integrating an Information Literacy Quiz into the Learning Management System

M. Sara Lowe, Educational Services Assessment & Instruction Librarian, Claremont Colleges Library, 800

N. Dartmouth Ave., Claremont, CA 91711 phone: (909) 607-6231, fax: (909) 621-8681,

sara_lowe@cuc.claremont.edu

Char Booth, Instruction Services Manager & E-Learning Librarian, Claremont Colleges Library, 800 N.

Dartmouth Ave., Claremont, CA 91711 phone: (909) 607-4352, fax: (909) 621-8681,

char_booth@cuc.claremont.edu

Natalie Tagge, Instruction Librarian, Claremont Colleges Library, 800 N. Dartmouth Ave., Claremont, CA

91711 phone: (909) 607-7168, fax: (909) 621-8681, natalie_tagge@cuc.claremont.edu

Sean M. Stone, Science & Asian Studies Librarian, Claremont Colleges Library, 800 N. Dartmouth Ave.,

Claremont, CA 91711 phone: (909) 607-4564, fax: (909) 621-8681, sean_stone@cuc.claremont.edu

Abstract

The Claremont Colleges Library Instruction Services Department developed a Quiz that could be integrated into the consortial learning management software to accompany a local online, open-source information literacy (IL) tutorial. The Quiz is integrated into individual course pages, allowing students to receive a grade for completion and improving buy-in at the faculty and student level. Piloted in nine first-year classes in Fall 2012 then revised and launched in Spring 2013, the Quiz has given the Library valuable assessment data on first-year student IL skills and enhanced the ability of teaching librarians to tailor their instruction to student performance.

Introduction

In order to enhance pedagogical effectiveness of a local web-based information literacy (IL) tutorial using a “blended” online and in-person instruction and to assess student IL skills¹ in first-year seminar courses, in Summer 2012 the Claremont Colleges Library (CCL) Instruction Services Department developed a Quiz module within Sakai, the consortial learning management system (LMS), that could be integrated into individual course sites (Appendix A). The Quiz built on work begun in the Summer of 2011, when the Library’s Instruction Services team adapted an open-source “Start Your Research” tutorial originally developed by the UC Irvine Libraries² for the CCL context. Although the tutorial contains mini self-assessments, it does not provide the ability to record scores, provide proof of completion, or feed into a student’s course grade and is therefore difficult to assign within formal class settings. Developing a Quiz in which students could receive credit for completion was vitally important to enhance both the utility and adoption of the tutorial within course settings.

By providing an LMS-connected means of assessing student IL skills, a number of pedagogical, learning, and assessment goals have been achieved through course-integration of the tutorial and Quiz module:

faculty are able to gain insight into student research skills, librarians are able to determine a baseline of students' abilities in order to tailor instruction to their needs, and students receive a self-paced online learning opportunity that reinforces in-class IL instruction. In addition, because the Quiz module is managed by librarians within individual LMS course sites, it provides a valuable basis for IL assessment by allowing for the collection of data on student competencies at an entry level.

Background

The Claremont Colleges consist of seven contiguous institutions; five undergraduate colleges (Claremont McKenna College, Harvey Mudd College, Pitzer College, Pomona College, and Scripps College) and two graduate schools (Claremont Graduate University and Keck Graduate Institute). The combined FTE of the 7 colleges is approximately 7,000. Over the past two years, CCL has expanded its base of programmatic IL instruction from three to five of the undergraduate institutions' first-year seminars (specifically: FHS/FWS at Claremont McKenna; HSA 10 at Harvey Mudd; FYS at Pitzer; ID1 at Pomona; Writing 50 at Scripps). Within these five first-year programs, each syllabus is unique and not all of the programs have unified learning outcomes, making it difficult for librarians to uniformly assess student competencies. The ongoing increase in instruction load and depth of customized instruction required each seminar regularly taxes teaching librarians; developing a tutorial that could help us maximize our impact on student learning as well as provide assessment data was vitally important to the library's educational objectives.

Literature Review

As mentioned above, like many academic libraries CCL developed an online research tutorial aimed at teaching IL skills in a course-related or course-independent context. Unlike the Start Your Research Tutorial Quiz, many library IL tutorials described in the literature do not feature course-based

assessment or integration within the campus LMS. Some are stand-alone in that they are not integrated into individual courses or one-shot sessions.^{3,4} Some are too specific, created for one course and not generalizable to a larger student body.⁵ Others are integrated into a class but do not “live” in the same location as a dedicated course site within the LMS.^{6, 7, 8, 9, 10, 11, 12, 13, 14, 15} Some tutorials are primarily focused on distance or online learning with less information on using a “blended” approach: web tutorials and Quizzes for on-campus students.^{16, 17, 18, 19, 20} Several different tutorials mentioned in the literature are not available for adaptation via open source software and thus are less accessible to libraries with limited resources who seek to adopt the tutorial or quizzes.^{21, 22} Many articles discuss the process of creating tutorials or modifying open source products but do not provide data on student use.^{23, 24, 25}

Several library-based tutorial Quizzes discussed in the literature do not include assessment components.^{26, 27} Exceptions include McClure²⁸ who authentically assessed the effectiveness of an IL tutorial at Florida Gulf Coast University through student writing samples, and Noe²⁹ who published three semesters of data of student performance on Auburn’s tutorial to gauge both student’s and tutorial performance. In some cases, publication occurred before data was available^{30, 31, 32, 33} therefore making it difficult for libraries to determine whether the tutorial would fit their needs. In others, assessment was intended to gauge the effectiveness or usage of the tutorial or quiz itself and not of student learning.^{34, 35, 36} While this is useful for libraries deciding whether or not to adopt a tutorial or quiz, for libraries attempting to prove their impact on student learning, access to data that can lead to assessment of student learning and library effectiveness is imperative. In his article on plagiarism,³⁷ Germak voices concern of how infrequently web tutorials in a library context provide assessment data.

The CCL Start Your Research Tutorial Sakai Quiz project was conceived and developed to resolve these issues. The Quiz is typically used in conjunction with an in-class library session(s), allowing librarians to tailor instruction to the needs of a particular class by reinforcing concepts from the tutorial with point-of-need information. By integrating the Quiz into a given LMS course site and requiring it for a grade or participation credit, faculty increase student motivation to engage with the learning object, and, ostensibly, retain tutorial concepts and information. The Quiz can also be used independent of librarian-led instruction to reinforce tutorial content and allow for assessment of student's IL competencies. These results allow librarians not only to get a baseline on first-year student's Information Literacy skills but also to assess the effectiveness of the tutorial itself.

The Start Your Research Tutorial

Adapted from the open-source original created by the UC Irvine Libraries, CCL's "Start Your Research" (SYR) tutorial³⁸ is divided into six³⁹ modules (Begin Research, Knowledge Cycle, Find Books, Find Articles, Basic Search, Advanced Search), each of which covers a fundamental aspect of IL tailored to the Claremont Colleges Library's website, information resources, and other research tools.⁴⁰ Brief self-assessments are scattered throughout the tutorial, but no evaluative feedback is recorded: hence the impetus for developing an ancillary assessment instrument that could track student comprehension and contribute to a course grade within any class offered through the colleges' learning management system. This was the ideal platform for Quiz deployment because every course at the colleges has a course site automatically created even if a faculty member does not normally engage heavily with the LMS in their classes.

Methodology

The authors developed a series of 20 Quiz questions based on SYR Tutorial content. Fifteen selected response and 5 short answer questions were designed to evaluate retention of tutorial content and provide an initial window into student IL competencies. (See Appendix A for Quiz questions and responses).⁴¹ Following initial development and revision of questions, the Quiz module was mounted in the colleges' LMS (Sakai) using the Tests & Quizzes module inside of a dedicated Project Site. This enabled librarians to import the Quiz into any course site within which they have instructor privileges. Two student Library employees as well as the authors tested the final SYR Tutorial and Quiz to identify potential instrument error and determine the average amount of time necessary to complete the tutorial and Quiz (average Tutorial timing was approximately 44 minutes, and Quiz timing was 19 minutes).

For the first-round, the Quiz was piloted in nine first-year seminar courses at four undergraduate Claremont Colleges institutions in Fall 2012. One hundred and five of 125 students in these courses completed the assigned Quiz during the fall 2012 semester, an 84% rate of completion. The average score was 74.3% and the median score was 76.7%. The highest score was 96.67% and the lowest score was 46.65%. Forty-two percent of students scored an 80% or above on the Quiz, while only 7% of students scored 90% or above on the Quiz. The standard deviation of the scores was 10.44. (See Figure 1)

(Insert Figure 1)

Higher standard deviation and low overall performance rates in the pilot Quiz administration are indicative of instrument error as well as cursory Quiz completion on the part of some student participants. Following aggregate analysis of pilot Quiz performance, survey authors identified five items that had high incorrect response rates and determined instrument error was at fault; five questions⁴² were significantly revised in the final Quiz version to reduce instrument error.

Pilot results indicate that SYR Quiz completion rates were lowest in classes where there was unclear communication from the professor to the students about the Quiz and/or the Quiz was not assigned a grade. Completion rates were highest in classes where there was clear communication from the professor about the Quiz and the Quiz had some bearing on grade (in most instances, the Quiz was factored into the participation grade).

For the second round, following instrument error corrections and librarian training on Sakai Quiz integration by the authors, the revised Quiz was launched in Spring 2013. Eight of 10 first-year course sections (80%) receiving Library instruction included the SYR Tutorial and Sakai Quiz; 8 of 11 total sections of the first-year seminar in question (72%) assigned the SYR Tutorial and Sakai Quiz. There were 147 students in the eight sections, 115 of whom completed the Quiz, a 78% completion rate. The SYR Tutorial and Quiz counted toward course participation, as a course grade, or as extra credit in half of the eight sections that assigned it.

In its second round, Quiz results showed significant improvement: students averaged 87 percent (a B-average) compared to 75 percent (a C-average) in the first round. Second round median score was 86.67%. The highest score was 100% and the lowest score was 59.99%. Of those who completed the Quiz, 90% of students scored an 80% or above, while 40% of students scored 90% or above. The standard deviation of the scores dropped to 8.19. (See Figure 2) Improvements in student performance reflect instrument error correction as well as better buy-in and participation by faculty (e.g., connecting student performance to a course grade).

(Insert Figure 2)

When included in a course, each SYR Quiz implementation was customized to the course's needs. The Librarian/faculty collaboration decided whether to give a course grade or participation credit for Quiz

completion, the number of days students were given to complete the Quiz, and how students would be notified about the Quiz. Overall, faculty were receptive to integrating the tutorial and Quiz into their classes and librarians received positive feedback from students and faculty about SYR Tutorial design and content.

Following administration of the Quiz in their respective classes, librarians analyzed Quiz results and determined the most effective way to utilize this assessment data to improve the students' IL skills within the context of the class. How the Quiz results were utilized was dependent on students' scores, faculty input, and logistical and time constraints.

Aggregate question level feedback was provided to students either in class or via online research guides. (See Figure 3 for an example of Quiz results in a course guide for students.) (Insert Figure 3) This gave students a sense of how their scores compared with peers and when problems were widespread. In cases where class Quiz results were strong on the aggregate, the tutorial/Quiz was allowed to stand on its own as an asynchronous online IL lesson largely independent from course-based Library instruction. In cases where sections of the Quiz were problematic for a number of students in a course, instruction sessions were more heavily tailored to remediate questions that students did not answer correctly. Particular attention was paid to areas where students consistently performed poorly, which included: subject headings, truncation, and the pathways to locate books and journals (e.g., understanding ILL). When it was appropriate and possible, librarians worked with faculty to address deficiencies throughout the semester by more strongly scaffolding IL into the course as a whole. In some cases, additional librarian-led workshops were added to address deeper student research needs and/or deficiencies identified by the Quiz. Librarians at CCL have also begun to promote the SYR Tutorial and Quiz as a way foster adoption of basic IL instruction by faculty who see a potential course collaboration involving a

face-to-face workshop as an imposition on class time, thus providing a web-based learning option in the case of minimal course involvement.

Due to the success of the SYR Tutorial and Quiz pilot and full implementation in first-year courses, CCL has plans to expand its use of LMS-based instruction and assessment strategies. In order to develop the tutorial and Quiz combination beyond the first-year, CCL is in the process of creating supplementary Quizzes for each of the six Tutorial modules in order for faculty to have the opportunity to select the specific tutorial modules they would like students to complete. IL instructors in graduate courses are beginning to customize Quiz questions to reflect a more advanced level of instruction and research competency. In addition, a seventh module on citation and plagiarism has recently been added to the CCL tutorial from additional tutorial source files released by UC Irvine, and the extant first-year Quiz will be revised to incorporate new content to reflect this addition. Finally, the Library is considering developing an additional Quiz covering similar content to use as a pre- and post-test set to allow for better assessment of student learning; this would elevate the benefit of the Quiz module beyond simply informing baseline IL competencies and economizing class interactions into the realm of assessment of information literacy instruction at the programmatic level.

Conclusion

Multiple factors can make online tutorial-based assessment in the library context difficult, including a potential lack of shared faculty/librarian IL learning objectives or limitations in tutorial technology that make it challenging or impossible to capture and transmit student responses. By creating a stand-alone IL tutorial Quiz integrated into our campus LMS, CCL has developed a flexible method of outcomes-focused, web-based IL assessment that produces mutually beneficial data and reinforces in-class instruction. Thus effectively solving the common problem identified by Germak, who noted “when

online tutorials are the exclusive tool or method of choice, assessment is not likely to be performed.”⁴³

The success of this “blended” approach has been popularly embraced by faculty, students, and librarians, and has enabled faculty to give a course credit for student participation in a Library-developed assignment. In addition, it has facilitated the integration of IL assessment into Sakai sites in first-year seminar courses across the Claremont Colleges. This has resulted in better integrated IL outcomes across the first-year curriculum and has provided a mechanism by which to assess student IL competencies an online setting.

Appendix A – The Start Your Research Tutorial Quiz with answer key

1. **Describe the difference between article databases and the Library catalog (Blais). [OPEN ENDED]**

Feedback: Article databases include article citations and abstracts. They are a search tool to find scholarly articles on a subject or topic. Blais, the library catalog, is a search tool to find books. Although it lists journals, it does not include information on specific articles in a journal.

2. **Which TWO of the following can the “Get this Item” button do?**
 - A. Link you to the full-text of the article if it is available in another database that the Library subscribes to
 - B. Link you to the full-text of the article if it is freely available online
 - C. Request the article via Interlibrary Loan if it isn't available in full text
 - D. Order takeout

Answer Key: A,C

Correct Feedback: Correct! A and C are correct because “Get This Item” only works with databases to which we have access. There may be items on the open web that “Get This Item” would not locate. If none of the Library's databases have access to the full text of the article, you will be given the option to Interlibrary Loan (ILLiad) the article.

Incorrect Feedback: Incorrect. A and C are correct because “Get This Item” only works with databases to which we have access. There may be items on the open web that “Get This Item” would not locate. If none of the Library's databases have access to the full text of the article, you will be given the option to Interlibrary Loan (ILLiad) the article.

3. **Which of the following do online article databases contain?**

- A. Citations
- B. Abstracts
- C. Full-text of scholarly journal articles
- D. All of the above

Answer Key: D

Correct Feedback: Correct! Online databases subscribed to by the Claremont Colleges Library (and other libraries) contain all of these things.

Incorrect Feedback: Correct, but incomplete. Online databases subscribed to by the Claremont Colleges Library (and other libraries) contain all of these things.

4. What would a scholarly book on an historical event be MOST likely to provide?

- A. A fictional account of the event
- B. In-depth information and analysis of the event
- C. A first-hand account of the event
- D. Opinions about the event

Answer Key: B

Correct Feedback: Correct! A scholarly book tends to provide in-depth information and historical analysis of an event.

Incorrect Feedback: Incorrect. Scholarly books tend to provide in-depth information and historical analysis of an event.

5. Which of the following is NOT a secondary source?

- A. Scholarly article about an event

- B. Book analyzing the event
- C. Diary entry about the event
- D. Biography of Martin Luther King, Jr.

Answer Key: C

Correct Feedback: Correct! A diary is a primary source. Scholarly articles, books analyzing an event, and biographies are secondary sources.

Incorrect Feedback: Incorrect. A diary is a primary source. Scholarly articles, books analyzing an event, and biographies are secondary sources.

6. When is it useful to search by subject heading?

- A. When you have a general topic
- B. When you know subject specific vocabulary
- C. When you are having trouble finding relevant articles with keyword searching
- D. All of the above

Answer Key: D

Correct Feedback: Correct! Subject headings work better than keyword searches when you are researching general topics, using subject-specific vocabulary, and when a keyword search fails.

Incorrect Feedback: Incorrect. It's all of the above - subject headings work better than keyword searches when you are researching general topics, using subject-specific vocabulary, and when a keyword search fails.

7. Give an example of a primary source a researcher might use for ONE of the following subjects: history; biology; or psychology. [OPEN ENDED]

Feedback: For a historian a primary source could be a diary, letters, interviews, or news footage. To a biologist it could be results of an experiment, research, or clinical trials. To a psychologist, it could be census data, statistics, or results of an experiment on human behavior.

8. In a database, how can you quickly determine if an article is relevant to your research?

- A. Look at the year it was published
- B. Read the abstract
- C. See if the author is authoritative
- D. Find the full-text of the article

Answer Key: B

Correct Feedback: Correct! Remember, the abstract is the brief synopsis of the paper. Reading it can help you determine if it is worth your time to read the entire article.

Incorrect Feedback: Incorrect. The year it was published, whether the author is authoritative, or if you can find the full text may be important, but they do not tell you how relevant the article is to your research. Remember, the abstract is the brief synopsis of the paper. Reading it can help you determine if it is worth your time to read the entire article.

9. If you want to find articles ABOUT Ernest Hemingway, which field would you search using his name?

- A. Author
- B. Subject
- C. Article Title
- D. Journal Title

Answer Key: B

Correct Feedback: Correct! To find articles ABOUT someone, you should do a subject search.

Incorrect Feedback: Incorrect. To find articles ABOUT someone, you should do a subject search.

10. True or False: “Maternal” to mate* is an effective truncation.

- A. True
- B. False

Answer Key: B

Correct Feedback: mate* is not an effective truncation of “maternal” because this search term would return unrelated search terms, such as mate, material, and mating.

Incorrect Feedback: Incorrect. Mate* is not an effective truncation of “maternal” because this search term would return unrelated search terms, such as mate, material, and mating.

11. Explain the differences between scholarly publications such as academic journals and popular publications such as newspapers and blogs (for example, time to publication, author qualifications, etc.). [OPEN ENDED]

Feedback: A scholarly publication is written by a credentialed expert (such as a professor) and “peer” reviewed by experts in the same field, and is usually published in an academic journal but sometimes by a commercial press. Examples of scholarly publications are Science and The Journal of Asian Studies. The publication's intended audience is other experts and often concerns original research. Publications of this type usually include bibliographies.

Popular publications, such as newspapers or blogs, tend to be written by journalists or enthusiasts, are fact checked for accuracy but not “peer” reviewed by experts, and are sometimes self-published. The

intended audience of a popular publication is the general public. Examples of popular sources are The Los Angeles Times and The Huffington Post.

12. For a five-page paper, the research topic “President Obama and healthcare” is probably...

- A. too broad and needs to be narrowed
- B. too narrow and needs to be broadened
- C. just right

Answer Key: A

Correct Feedback: This topic would be appropriate, say, for a PhD dissertation, but is too broad for a short paper. You would want to do initial research to limit the scope of this topic.

Incorrect Feedback: Incorrect. This topic would be appropriate, say, for a PhD dissertation, but is too broad for a short paper. You would want to do initial research to limit the scope of this topic.

13. If you are not able to locate a book in the Claremont Colleges Library catalog (Blais), where should you search NEXT?

- A. Academic Search Premier
- B. JSTOR
- C. Link+, then ILLiad

Answer Key: C

Correct Feedback: Correct! Link+ is a consortium of academic and public libraries in California and Nevada that have agreed to share books. ILLiad is used to find books, but only if they aren't available through Link+. Academic Search Premier and JSTOR are article databases, you don't use them to find books.

Incorrect Feedback: Incorrect. You should search Link+. Link+ is a consortium of academic and public libraries in California and Nevada that have agreed to share books. ILLiad is used to find books, but only if they aren't available through Link+. Academic Search Premier and JSTOR are article databases, you don't use them to find books.

14. Which search would return more results?

- A. adolescents AND teenagers
- B. adolescents OR teenagers

Answer Key: B

Correct Feedback: Correct! The term OR searches for instances where EITHER the term adolescents or teenagers is found. When the term AND is used both terms must be present.

Incorrect Feedback: Incorrect. The term OR searches for instances where EITHER the term adolescents or teenagers is found. When the term AND is used both terms must be present.

15. How would you construct a search using truncation (*) and boolean operators (and/or/not) for the following research question: "Has gender identity changed among secondary school students since the end of apartheid?" [OPEN ENDED]

Feedback: To construct a search on this topic you would first pull out the keywords from the research question. In this research question they are gender identity, secondary school, apartheid. You could then think about synonyms or related words that might be helpful to use in a search. For example, woman, man, teenager, adolescent and South Africa are examples of related words to consider using in a search for this topic. Here is one example search: (apartheid OR South Africa) AND (secondary school* OR adolescent) AND gender.

16. What should be your first step when you begin working on a research assignment?

- A. swear loudly
- B. immediately start searching for information
- C. read your assignment

Answer Key: C

Correct Feedback: Correct! It is always important to know the perimeters of your assignment, so that you develop an appropriate research question and use appropriate sources.

Incorrect Feedback: Incorrect. It is always important to know the perimeters of your assignment, so that you develop an appropriate research question and use appropriate sources.

17. List three keywords related to your own research topic or question, and then provide at least two synonyms for each keyword.

If you do not have a research question or topic, what important keywords (including synonyms) would you suggest for the following example: “How does oil pollution affect marine mammals in the Gulf of Mexico”? [OPEN ENDED]

Feedback: The keywords are the key concepts in your research question. In the case of this research question they are oil, pollution, marine mammals and Gulf of Mexico. In order to effectively find resources on your topic you will need to think of synonyms (and related words) for your keywords.

Some examples of synonyms are:

- 1.) oil = petroleum, fuel, oil drilling
- 2.) pollution = environmental impact, water pollution, waste spills, hazardous wastes
- 3.) marine mammals = aquatic mammals, marine animals, dolphins

4.) Gulf of Mexico = coastal wetlands

18. Which of the following is a subject heading?

- A. The making of modern South Africa : Conquest, apartheid, democracy
- B. Nigel Worden
- C. Wiley-Blackwell
- D. Apartheid -- South Africa

Answer Key: D

Correct Feedback: Correct! Subject headings are the agreed-upon terms designated by the Library of Congress and assigned to each item in a library's catalog. "The making of modern South Africa" is the title of a book. Nigel Worden is the author's name. Wiley-Blackwell is the name of the publisher of the book.

Incorrect Feedback: Incorrect. Subject headings are the agreed-upon terms designated by the Library of Congress and assigned to each item in a library's catalog. "The making of modern South Africa" is the title of a book. Nigel Worden is the author's name. Wiley-Blackwell is the name of the publisher of the book.

19. What piece(s) of information do you need to locate a book on a library shelf?

- A. Location
- B. Call Number
- C. Status
- D. All of the above

Answer Key: D

Correct Feedback: Correct! You need all three pieces of information to find the book AND know that it will on the shelf.

Incorrect Feedback: Incorrect. You need all three pieces of information to find the book AND know that it will on the shelf.

20. What keywords would the truncated search child* find?

- A. child
- B. children
- C. childhood
- D. All of the above

Answer Key: D

Correct Feedback: Correct! "child*" would search for any words that begin with the stem "child". child* would, therefore, search for the terms child, children and childhood.

Incorrect Feedback: Incorrect. "Child*" would search for any words that begin with the stem "child". child* would, therefore, search for the terms child, children and childhood.

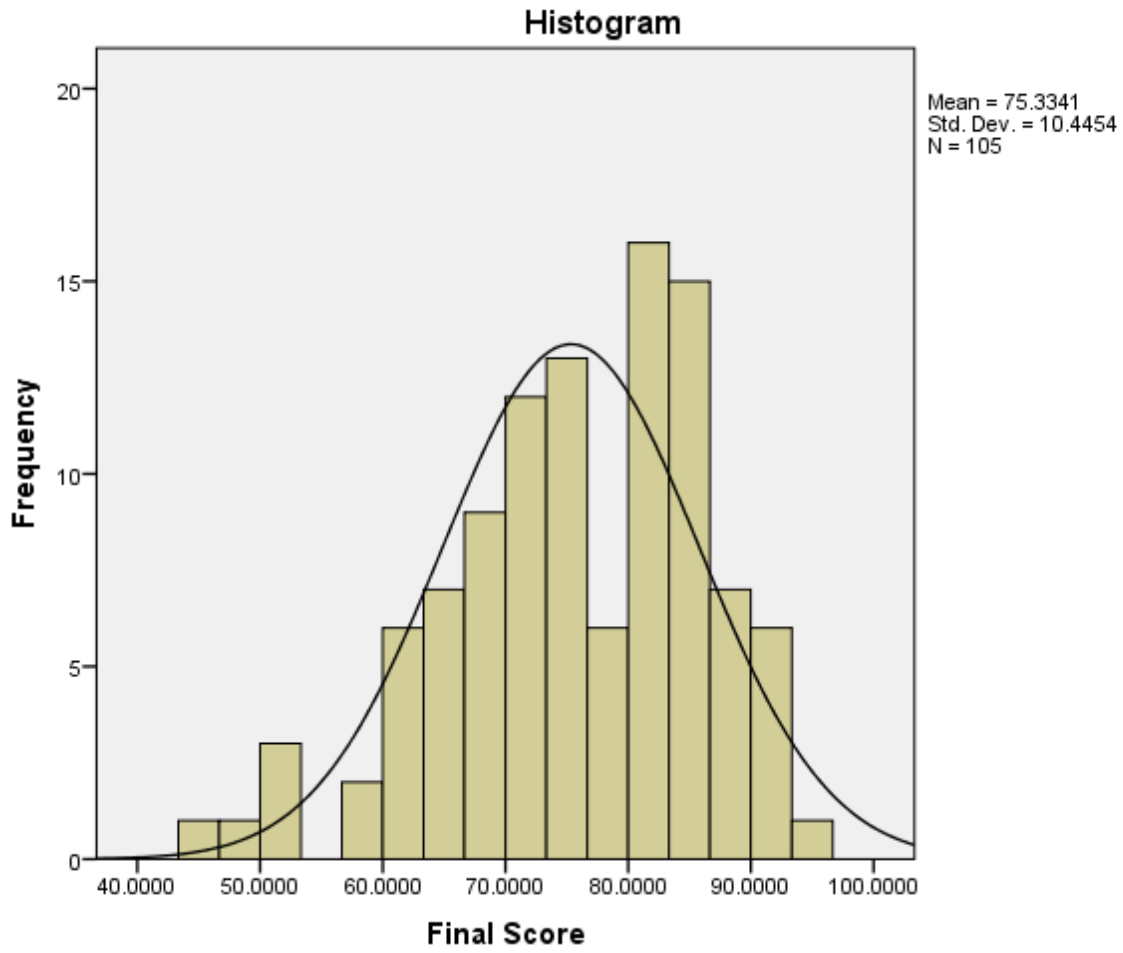


Figure 1

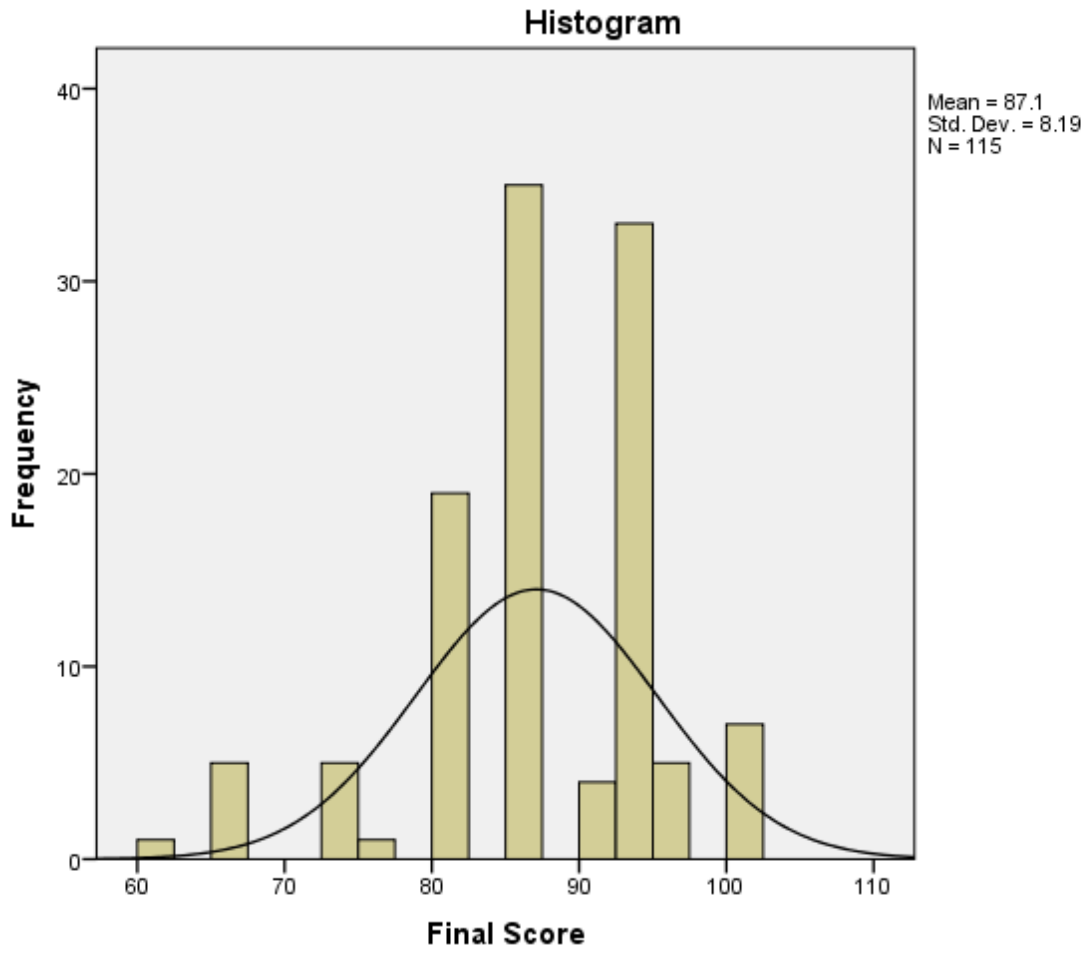


Figure 2

Quiz Feedback

Question 2 edit

Part 1, Question 2 (Multiple Correct, Multiple Selection)
 Which of the following can the "Get this Item" button do?

- 11 Responses
 Link you to the full-text of the article if it is available in another database that the Library subscribes to
- 11 Responses
 Link you to the full-text of the article if the Library has access to it or is freely available online
- 10 Responses
 Request the article via Interlibrary Loan
- 5 Responses
 Send a request to a librarian

Responses 15
 % Students All Correct 0

The correct answers to this question are **A.)** Link you to the full text of the article if it is available in another database the Library subscribes to **AND C.)** Request the article via Interlibrary Loan

These answers are correct because "Get This Item" only works with databases to which we have access. If none of the Library's databases have access to the full text of the article, you will be given the option to Interlibrary Loan (ILLiad) the article.

There may be items on the open web that "Get This Item" would not locate. "Get This Item" does not send a request to a librarian. If you would like to ask a librarian a question, please use one of our [Ask Us Options](#)


(Add / Edit Text )

Figure 3

Endnotes

¹ The Claremont Colleges Library definition of Information Literacy: "Information literacy is the ability to use critical thinking to create meaningful knowledge from information. The information literate Claremont Colleges student: Engages in a process of inquiry in order to frame intellectual challenges and identify research needs; Accesses, evaluates, and communicates information effectively; Provides attribution for source materials used; and develops insight into the social, legal, economic, and ethical aspects of information creation, use, access, and durability."

² Catherine Palmer, Char Booth, and Lia Friedman, "Collaborative Customization: Tutorial Design Across Institutional Lines," *College & Research Libraries News* 73, no. 5 (May 2012): 243-248.

³Elizabeth Blakesley Lindsay, Lara Cummings, Corey M. Johnson, and B. J. Scales, "If You Build it, Will they Learn? Assessing Online Information Literacy Tutorials," *College & Research Libraries* 67, no. 5 (Sept. 2006): 429-445.

⁴ Bryan Tronstad, Lori Phillips, Jenny Garcia, and Mary Ann Harlow, "Assessing the TIP Online Information Literacy Tutorial," *Reference Services Review* 37, no. 1 (Feb. 2009): 54-64.

⁵Ligaya A. Ganster and Tiffany R. Walsh, "Enhancing Library Instruction to Undergraduates: Incorporating Online Tutorials into the Curriculum," *College & Undergraduate Libraries* 15, no. 3 (June 2008): 314-333.

⁶ Annie Armstrong and Helen Georgas, "Using Interactive Technology to Teach Information Literacy Concepts to Undergraduate Students," *Reference Services Review* 34, no. 4 (Nov. 2006): 491-497.

⁷ Paul J. Bracke and Ruth Dickstein, "Web Tutorials and Scalable Instruction: Testing the Waters," *Reference Services Review* 30, no. 4 (2002): 330-337.

⁸ Amy Gustavson, Angela Whitehurst, and David Hisle, "Laying the Information Literacy Foundation: A Multiple-Media Solution," *Library Hi Tech* 29, no. 4 (Nov. 2011): 725-740.

⁹ Karen Kate Kellum, Amy E. Mark, and Debra Riley-Huff, "Development, Assessment and Use of an On-Line Plagiarism Tutorial," *Library Hi Tech* 29, no. 4 (2011): 641-654.

¹⁰ Margaret Kendall, "Tackling Student Referencing Errors through an Online Tutorial," *Aslib Proceedings* 57, no. 2 (Apr. 2005): 131-145.

¹¹Mariana Lapidus, Sarah K. Mccord, William W. Mccloskey, and Maria Kostka-Rokos, "Combined Use of Online Tutorials and Hands-on Group Exercises in Bibliographic Instruction for Pharmacy Students," *Medical Reference Services Quarterly* 31, no. 4 (Oct. 2012): 383-399.

¹²Anita Ondrusek, Valeda F. Dent, Ingrid Bonadie-Joseph, Clay Williams, "A Longitudinal Study of the Development and Evaluation of an Information Literacy Test," *Reference Services Review* 33, no. 4 (2005): 388-417.

¹³Sharon A. Weiner, Nancy Pelaez, Karen Chang, and John Weiner, "Biology and Nursing Students' Perceptions of a Web-Based Information Literacy Tutorial," *Communications in Information Literacy* 5, no. 2 (Sept. 2011): 187-201.

¹⁴ An exception is Cook who utilized Blackboard for the tutorial. Douglas L. Cook, "Ship to Shore: An Online Information Literacy Tutorial using BlackBoard Distance Education Software," *Journal of Library Administration* 37, no. 1 (May 2002): 177.

¹⁵ Melissa R. Dennis, Rebecca M. Murphey, and Kristin Rogers, "Assessing Information Literacy Comprehension in First-Year Students," *Practical Academic Librarianship: The International Journal of the SLA* 1, no. 1 (June 2011): 1-15. Maura A. Smale and Mariana Regalado, "Using Blackboard to Deliver Library Research Skills Assessment," *Communications in Information Literacy* 3, no. 2 (Sept. 2009): 142-157. Both used Blackboard for pre- and post-tests but not in conjunction with an online tutorial.

¹⁶ Paul Betty, "Creation, Management, and Assessment of Library Screencasts: The Regis Libraries Animated Tutorials Project," *Journal of Library Administration* 48, no. 3 (Oct. 2008): 295-315.

¹⁷ Jennifer Kelley, "Off the Shelf and Out of the Box: Saving Time, Meeting Outcomes and Reaching Students with Information Literacy Modules," *Journal of Library & Information Services in Distance Learning* 6, no. 3 (July 2012): 335-349.

¹⁸ Leo S. Lo and Jenny McCraw Dale, "Information Literacy "Learning" Via Online Tutorials: A Collaboration between Subject Specialist and Instructional Design Librarian," *Journal of Library & Information Services in Distance Learning* 3, no. 3 (July 2009): 148-158.

¹⁹ Therese Skagen, Maria Carme Torras, Solveig M. L. Kavli, Susanne Mikki, Sissel Hafstad, and Irene Hunskaar, "Pedagogical Considerations in Developing an Online Tutorial in Information Literacy," *Communications in Information Literacy* 2, no. 2 (Sept. 2008): 84-98.

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- ²⁰ Sara L. Thornes, "Creating an Online Tutorial to Support Information Literacy and Academic Skills Development," *Journal of Information Literacy* 6, no. 1 (June 2012): 81-95.
- ²¹ Kathrine Aydelott, "Using the ACRL Information Literacy Competency Standards for Science and Engineering/Technology to Develop a Modular Critical-Thinking-Based Information Literacy Tutorial," *Science & Technology Libraries* 27, no. 4 (June 2007): 19-42.
- ²² Carolyn Burrell and Scott Lee, "Online Library Tutorials at Antelope Valley College: Origin and Development," *Community & Junior College Libraries* 13, no. 3 (July 2005): 33-42.
- ²³ Cara Bradley and Leeanne Romane, "Changing the Tire Instead of Reinventing the Wheel: Customizing an Existing Online Information Literacy Tutorial," *College & Undergraduate Libraries* 14, no. 4 (Dec. 2007): 73-86.
- ²⁴ Robert Flatley and William Jefferson, "Customizing and Using a Popular Online Information Literacy Tutorial: One Library's Experience," *Library Philosophy & Practice* 8, no. 2 (Spring 2006): 1-9.
- ²⁵ Carmen Kazakoff-Lane, "Anything, Anywhere, Anytime: The Promise of the ANimated Tutorial Sharing Project for Online and Mobile Information Literacy," *Journal of Library Administration* 50, no. 7 (Oct. 2010): 747-766.
- ²⁶ Leslie G. Adebonojo, "A Way to Reach all of Your Students: The Course Management System," *Journal of Library & Information Services in Distance Learning* 5, no. 3 (July 2011): 105-113.
- ²⁷ Amy Blevins and Megan E. Besaw, "Reflecting on Quiz Placement in Online Tutorials: Creating a More Active Learning Experience," *Medical Reference Services Quarterly* 30, no. 3 (July 2011): 316-324.
- ²⁸ Randall McClure, Rachel Cooke, and Anna Carlin, "The Search for the Skunk Ape: Studying the Impact of an Online Information Literacy Tutorial on Student Writing," *Journal of Information Literacy* 5, no. 2 (Dec. 2011): 26-45.
- ²⁹ Nancy W. Noe and Barbara A. Bishop, "Assessing Auburn University Library's Tiger Information Literacy Tutorial (TILT)," *Reference Services Review* 33, no. 2 (May 2005): 173-187.
- ³⁰ Stacy A. Anderson and Emily R. Mitchell, "Life After TILT: Building an Interactive Information Literacy Tutorial," *Journal of Library & Information Services in Distance Learning* 6, no. 3 (July 2012): 147-158.
- ³¹ Aydelott, "Using the ACRL Information Literacy Competency Standards," 19-42.

³² Karen Gravett and Claire Gill, "Using Online Video to Promote Database Searching Skills: The Creation of a Virtual Tutorial for Health and Social Care Students," *Journal of Information Literacy* 4, no. 1 (June 2010): 66-71.

³³ Debra Kimok and Holly Heller-Ross, "Visual Tutorials for Point-of-Need Instruction in Online Courses," *Journal of Library Administration* 48, no. 3 (Oct. 2008): 527-543.

³⁴ Rebeca Befus and Katrina Byrne, "Redesigned with them in Mind: Evaluating an Online Library Information Literacy Tutorial," *Urban Library Journal* 17, no. 1 (Spring 2011): 1-26.

³⁵ Betty, "Creation, Management, and Assessment of Library Screencasts," 295-315.

³⁶ Kelley, "Off the Shelf and Out of the Box" 335-349.

³⁷ George Germek, "The Lack of Assessment in the Academic Library Plagiarism Prevention Tutorial," *College & Undergraduate Libraries* 19, no. 1 (Jan. 2012): 1-17.

³⁸ <http://libraries.claremont.edu/howto/researchtutorial/begin.html>

³⁹ A seventh Citation module was added in Summer 2013, after the Quiz pilot and launch.

⁴⁰ For more information on the original tutorial see: Palmer, Booth, and Friedman, "Collaborative Customization," 243-248.

⁴¹ The Quiz was classified as exempt by the IRBs of the five undergraduate Claremont Colleges. Documentation on file with the authors.

⁴² Specifically questions 2, 4, 6, 12, and 13.

⁴³ Germek, "Lack of Assessment," 11.