

Developing Information Literacy at Canisius College: Goals and Expected Outcomes across Four Years of Undergraduate Curriculum¹ Spring 2013

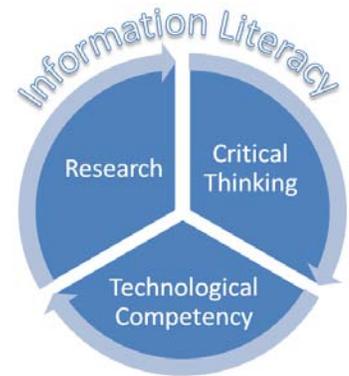
Overview

This document provides an overview of information literacy as a Core learning goal, a definition of how information literacy appears in the Core Curriculum², and some next steps for the development of best practices in information literacy instruction.

Relevance of Information Literacy

Information literacy is a person's ability to define an information need, find and access this information, critically evaluate the information for relevance and credibility, and use the information effectively and ethically. The skills required to understand where and how to collect information, how to comprehend and analyze it, and how to apply information gathered to complete a task are progressive and transferable. It is a skill set important to every major, every career, and integral to workplace and lifelong success. Furthermore, the Middle States Commission on Higher Education document *Characteristics of Excellence in Higher Education: Requirements of Affiliation and Standards for Accreditation*³ specifically identifies information literacy as being applicable to all disciplines and addresses the importance of information literacy to the student learning experience.

Information literacy is often misinterpreted as having the ability to find books or use the library, but it is much more. The act of research is often the way that students practice information literacy skills and develop the ability to find and use both traditional (print and library) and freely accessible (web) resources. However, information literacy is not simply research. Developing information literacy forces students to think critically as they learn to identify and evaluate the variety of perspectives evident in the information available to them through a variety of sources. Technical competency is needed to have an awareness of and the capability to use the many tools for finding information. It is all of these parts that make an information literate person.



For educators, information literacy is a means to teach students how to engage in the process of learning. It is a way to assist students as they learn, whether they are taking on a subject for the first time or deepening their knowledge of something with which they are already familiar. Students will develop those skills over time and through practice. In this sense, it is best to consider ways that information literacy can be developed through the work appropriate to specific courses, rather than imagine that it can be taught and retained as a stand-alone skill. Of further importance is the need for students to learn information literacy skills in their field of study.

¹ References to student learning goals and outcomes are derived from the institutional learning goals (2.c Communication Skills and 4.c Critical Thinking and Problem Solving) developed by the Institutional Assessment Committee (IAC) and core curriculum learning goals developed by the Faculty Senate and the Committee for the Core Curriculum (CCC). This document was prepared by the CCC.

² Throughout this document, "Core Curriculum" refers to the current Core voted by the Faculty Senate and approved by the AVP in Spring 2007.

³ Middle States Commission on Higher Education. (2009.) *Characteristics of Excellence in Higher Education: Requirements of Affiliation and Standards for Accreditation*; retrieved January 31, 2013 from http://www.msche.org/publications/CHX06_Aug08REVMarch09.pdf

Information Literacy and Educational Processes

When we as faculty ask students to engage in academic work, most of us have certain general expectations about what we want students to accomplish. We want students to:

- recognize the value of the materials we bring into our classes
- read course materials, and find outside materials that are appropriate to the course and the topic
- form questions or theses about these materials worth pursuing further
- understand multiple points of view about a topic and to fluidly incorporate those points of view
- “think for themselves” about the topic, to have learned from multiple perspectives and to synthesize new and existing knowledge to develop a perspective of their own
- be ethical in their use and presentation of materials (free of plagiarism and with proper citation)

These expectations define activities in which we want students to engage so that they might develop the ability to think critically and to reason clearly. When students develop information literacy, they are practicing the investigation and understanding of knowledge; they are using that practice to sharpen their abilities to reason.

Information literacy most often implies use of materials beyond or outside of students’ usual frames of reference and daily habits. This could occur within the course material if students are using texts, presentations, class discussions, and other material to synthesize relevant material with their existing knowledge in order to accomplish a task. Another way to explain information literacy is to say that it involves research. Faculty may naturally think of research in terms of research papers or similar projects, generally involving students making use of materials from beyond the main texts of a course. Information literacy as research, however, can be conceived more broadly.

First, research can occur outside of coursework as well as for course requirements. Students research service learning and study abroad opportunities; they research when looking for jobs and internships; they may need to learn about club activities at other colleges; they may need to find out about health treatments for themselves or family members. In all of these situations, as well as in research of academic subjects, students need to learn where to find and how to evaluate information. They also need to learn to use that information to produce sound knowledge upon which they and others may act. When students can, with accuracy and confidence, find, evaluate, and use information, they can be considered “information literate.” As the above examples demonstrate, information literacy skills are transferable within and beyond the academic setting.

Second, research is not simply a matter of knowing where to look for information, though that is part of the process. Researching effectively implies not only search skills but higher level thinking skills. Information literacy is an avenue to get students to think about and experience the ways in which information is produced, organized, and disseminated in a scholarly environment. Students must learn to consider the applicability and validity of information, as well as the extent to which found material can appropriately address their information need. Information literacy is a way to teach students to ask good questions about information and to determine sound parameters for topics and theses. It is a way for students to practice maintaining and respecting the boundaries between their work and that of others. Information literacy means that students know how to find information and use it appropriately.

Information Literacy through Four Years of the Undergraduate Experience

Though we may want students to achieve these above or similar goals, how they will do so by the end of four years may be less clear. It is the responsibility of the faculty to provide occasions for students to develop and practice information literacy skills. It is the responsibility of librarians to support the efforts of faculty through specially tailored instruction, assignment design, and curricular support. It is the responsibility of college administration to foster and evaluate these efforts. Both the Core Curriculum and the majors are necessary sites for the development of information literacy for and within our students.

The student learning outcomes listed below reflect the sense that information literacy is a goal of the campus community at large, and not simply a factor of academic courses. They also reflect that information literacy involves

critical thinking abilities. These goals, however, provide only an outline that must be further specified and particularized by all campus departments so as to assist students in becoming information literate.

Goals and Objectives for Information Literacy

In order to demonstrate information literacy by the time they graduate, students will practice the following strategies over the course of four years:

1. Define: The information literate student will define what one needs to learn, and why one needs to learn this (topic), and determine the nature and extent of needed information. Students will demonstrate the ability to:
 - Define a topic (e.g. research question, thesis statement, hypothesis).
 - Identify the key concepts and terms related to the topic.
 - Develop search strategies for effective searching.
2. Find & Access: The information literate student will find and access information addressing the topic effectively and efficiently. Students will demonstrate the ability to:
 - Interpret the parts of a citation in order to find resources.
 - Find information from a variety of resources (print, including journals and books; databases; websites; etc.).
 - Use electronic resources to search for information (library catalog, article databases, search engines, etc.)
 - Access and retrieve information.
3. Evaluate: The information literate student evaluates information and its sources critically. Students will demonstrate the ability to:
 - Examine, compare, and assess information based on standard evaluation criteria.
 - Evaluate resources by considering reliability, validity, accuracy, bias, and currency.
 - Distinguish types of resources (scholarly, popular, trade publications, primary sources, etc.).
 - Recognize resources that are appropriate to the topic.
4. Use: The information literate student will use the information effectively to accomplish a specific purpose. Students will demonstrate the ability to:
 - Extract concepts, details, and opinions from the resource material.
 - Draw independent conclusions based on the resource material.
 - Synthesize the resource material with existing knowledge.
 - Determine whether the resource material satisfies the topic.
 - Distinguish when to quote directly and when to paraphrase.
 - Use the resource material to accomplish a specific task (e.g. write a research paper, create a presentation, conduct an interview, etc.)
 - Use technology as necessary to accomplish a specific task.
5. Ethical Use: The information literate student will use the information ethically within the norms of academic discourse. Students will demonstrate the ability to:
 - Identify plagiarism, how to avoid plagiarism, and the institutional repercussions of academic dishonesty.
 - Understand copyright, intellectual property, royalties, and fair-use of information.
 - Use a selected documentation style to cite resources.
 - Understand the reasons for citing sources and giving credit.

Certainly students should be learning and practicing these activities in courses, though they will also develop these skills through work with other campus departments such as Service Learning, Campus Ministry, and Career Services.

A rubric (Appendix A) shows the kinds of knowledge and skills by which students' development of information literacy can be measured as they progress through the Foundations courses (FYS101, ENG101, PHI101, RST101).⁴

Information Literacy in the Core Curriculum

Information literacy is embedded in the Core Curriculum in two places: in the first year Foundations courses and in the Capstone. Through the experience of the four Foundations courses (ENG 101, FYS 101, PHI 101, and RST 101), students will develop a basic level of competency in information literacy (represented in a rubric in Appendix A). In the Capstone, students will demonstrate their development beyond a basic level (demonstrated in a rubric in Appendix B).

While the specific work of the Core Curriculum cannot presume to address it, yet because it is an institutional learning goal, there is an assumption that all students will engage in research within and specific to their major course of study. It is presumed that the specific work of research in the major can proceed because departments may rely on a basic information literacy conveyed through the Foundations experience. Investigation and exploration within the major can deepen and specify the kinds of sophisticated thinking that research helps to develop in students. This will enable students to develop higher order, discipline-specific information literacy skills necessary for professional and graduate work.

Information Literacy through the Foundations (First Year Core Courses)

Information literacy skills are progressive so instruction begins in the Core Foundations (ENG 101, FYS 101, PHI 101, RST 101). This is where students start the process of developing information literacy as defined above. It is a site for students to become aware of, to practice, and to become competent at using information or knowledge in order to learn about their specific course materials and also to prepare them for the general demands of college learning. It is a goal of the Core to develop a coordinated strategy to address information literacy in the four Foundations courses.

Certainly research is not the only way that students learn about their subjects or to think deeply, but it is a standard of academic discourse. Information literacy is a way for students to learn more about their course subjects, while also learning what is expected of them in other college courses. When thinking of "research," faculty might envision a research paper or project of some considerable length. Engaging in research for the purpose of developing information literacy can, however, take several forms. These could include:

- research journal
- annotated bibliography
- literature survey
- point-counterpoint presentation
- oral presentation that references outside sources
- article summaries
- analyzing research covered in the popular press

These are just a few general examples of work faculty currently present to students. These kinds of assignments encourage the development of search and evaluation skills that help students become information literate. These skills develop students' critical thinking and reasoning abilities by enabling them to recognize and utilize multiple pieces of information with differing perspectives. Specific examples of course assignments that foster the development of information literacy can be found in Appendix C.

Appendix A contains a rubric that defines the goals and expected outcomes for information literacy following the four first year Foundations courses. This rubric is not intended for use by instructors at the course level. It is intended

⁴ The following texts were used in the creation of this list of strategies and of the rubrics to measure student learning: Middle States Commission on Higher Education. (2003). *Developing Research and Communication Skills: Guidelines for Information Literacy in the Curriculum*. Philadelphia: Author; Association of College and Research Libraries (n.d.). *Standards, Performance Indicators, and Outcomes*. Retrieved, May 25, 2007, from <http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.cfm#stan>

for use at the institutional level for purposes of assessment. The rubric is of use to faculty teaching in the Foundations to guide them in the employment of research as a method of teaching course content in ways that also foster the development of information literacy. No one course within the Foundations is solely responsible for teaching information literacy. Rather, through overlapping opportunities that use research students can begin to see that information literacy, with its emphasis on both technological and thinking abilities, is a valid educational goal for a college graduate. Students will also begin to recognize the transferability of information literacy skills within and beyond an academic setting.

If it is an aspiration that students develop information literacy skills through the Foundations courses, it is essential to define coordinated student learning outcomes for these courses and to assist the faculty who are teaching Foundations courses with incorporating appropriate learning strategies into their courses. The faculty as a whole will have a right to expect a basic competency in information literacy upon which to build. Faculty can have confidence that students have had exposure to and some practice at basics of critical thinking, research, evaluation and synthesis of information, and presentation. Even if all students are not fully or equally competent in information literacy, faculty can legitimately rely on these skills having been presented. Faculty can thus share a common language and expectation, which will in turn reinforce to students the seriousness of these pursuits.

Information Literacy in Core Capstone

Information literacy is one set of skills that students should expect to demonstrate in the Core Capstone.⁵ It is expected that by the time students take a Core Capstone they have the ability to:

1. Define a topic, including relevant related concepts and effective search strategies.
2. Find and retrieve information addressing the topic from a variety of resources (print, including journals and books; databases; websites; etc.).
3. Evaluate information in terms of appropriateness to the topic using criteria such as reliability, validity, accuracy, bias, currency, and type of resources (scholarly, popular, trade publications, primary sources, etc.).
4. Use the information to create some meaningful new information or new document, including: extracting information relevant to the topic; using the information to draw independent conclusions; and synthesizing and integrating new and existing information.
5. Use the information ethically within the norms of academic discourse, including: understanding of copyright and fair use; understanding of plagiarism and academic integrity; and selection and use of appropriate documentation styles.

Core Capstones instructors can expect that students have learned the above and can demonstrate those skills with proficiency and consistency. The third column of Appendix B provides a synopsis of what faculty teaching Core Capstones can expect of students. Information literacy as such is not taught in the Core Capstone courses, rather these are skills that students could be expected to have upon entering the Capstone.

Assessment of Information Literacy in the Core Curriculum

Information Literacy is an essential component of general education at both the undergraduate and graduate levels. The Core Curriculum Committee recognizes the importance of Information Literacy and seeks to develop a comprehensive strategy for the student attainment of Information Literacy Skills across the four foundation courses of the Core Curriculum. FYS101 has identified a common assignment of the annotated bibliography and developed a corresponding rubric that assesses information literacy skills. The faculty who teach in the four foundation courses have begun to meet in an attempt to formulate a coordinated strategy for teaching Information Literacy skills. A standardized examination will be administered to a representative sample of students as they complete the foundation courses to assess the extent to which they have successfully acquired the Information Literacy skills they were supposed to have learned in the foundation courses. At this point it then becomes the responsibility of the

⁵ The following is the exact language from the "Structure of the Core Curriculum, March 23, 2007": One course that enables students to reflect upon the goals of the core curriculum and to develop leadership and a sense of the value of public service.

departments to teach the students majoring in their programs to instruct those students in the Information Literacy Skills relative to their specific disciplines. In the meantime, the faculty who teach the Core Capstone courses will be expected to identify a common exercise or assignment that could then be used for the summative assessment of Information Literacy skills in the senior year. In addition, the same standardized exam that students will take at the conclusion of their foundation courses will be administered to a representative sample of students in the second semester of their senior year. This will make it possible for the Core Curriculum Committee and the College to track the improvement of student Information Literacy skills from the foundation courses through to the Capstones and from one class of students to the next.

Faculty Development of Information Literacy Lessons and Assignments

The CCC is interested in supporting faculty as they infuse information literacy into their courses. Meetings among faculty who teach in the Core Curriculum will be organized to discuss a complementary approach to building information literacy skills among the five courses. A repository website called [Information Literacy Across the Curriculum: A Resource Guide for Faculty](#) is being built that will share best practices in information literacy teaching and learning, including examples of information literacy in action here at Canisius.

**Appendix A: Information Literacy Goals and Objectives Through the Foundations
(Core Curriculum Courses FYS101, ENG101, PHI101, RST101)**

Information Literacy Goals	Developing Competency (Start of Foundations)	Basic Competency (End of Foundations)
Defining the Assignment	<p>Selects a topic that is minimally consistent with the assignment.</p> <p>Identifies obvious keywords.</p> <p>Develops search strategies for the topic.</p>	<p>Develops a thesis statement or research question.</p> <p>Identifies key concepts that describe the topic.</p> <p>Develops effective search strategies using keywords and synonyms.</p>
Finding & Accessing Information	<p>Identifies the title and author in a citation.</p> <p>Identifies and searches at least two sources or formats (books, online databases, interviews, etc.).</p> <p>Uses information technology (computer databases, catalogs, internet, etc.) to search for, access and retrieve resources with support (from IT staff, library instruction, faculty, etc.).</p>	<p>Identifies the parts of a citation.</p> <p>Identifies and searches more than two sources or formats (books, online databases, interviews, etc.).</p> <p>Uses information technology (computer databases, catalogs, internet, etc.) to search for, access, and retrieve resources with minimal support.</p>
Evaluating Information	<p>Attempts to examine sources for reliability.</p> <p>Attempts to evaluate sources.</p> <p>Relies on popular (non-academic) sources for most information.</p> <p>May not recognize whether sources are appropriate to the assignment.</p>	<p>Examines sources for reliability.</p> <p>Evaluates sources (considering reliability, validity, currency, authority, point of view).</p> <p>Uses different types of sources (e.g. scholarly and popular).</p> <p>Determines if sources are appropriate to the assignment.</p>
Using Information	<p>Identifies main concepts from resource material.</p> <p>May not recognize whether information gathered fully satisfies the assignment.</p> <p>Organizes content to minimally fulfill the assignment.</p> <p>Uses resources to make a weak conclusion.</p> <p>Weakly communicates ideas.</p> <p>Relies heavily on quotations, with some paraphrasing. Quotes sources without comment or evaluation.</p> <p>Uses information technology (e.g. Word, PowerPoint, Web sites, etc.) to complete the assignment, with assistance or support (from IT, faculty, etc.).</p>	<p>Identifies concepts and opinion from resource material.</p> <p>Determines if assignment has been satisfied or if additional information is needed.</p> <p>Organizes content to fulfill the purpose of the assignment.</p> <p>Uses resources to make a general conclusion.</p> <p>Clearly communicates ideas.</p> <p>Uses a minimal number of quotations and more paraphrasing than quotation</p> <p>Uses information technology (e.g. Word, PowerPoint, Web sites, etc.) to complete the assignment, with minimal support.</p>
Understanding the Ethics of Information Use	<p>Demonstrates minimal understanding of plagiarism.</p> <p>Demonstrates limited knowledge of copyright laws regarding print and online sources.</p> <p>Uses appropriate documentation style for citing sources, but with widespread error.</p>	<p>Understands issues of plagiarism regarding print and online sources.</p> <p>Observes copyright laws regarding print and online sources.</p> <p>Uses appropriate documentation style for citing sources, with minimal error.</p>

Appendix B: Information Literacy Goals & Objectives for the Four Year Undergraduate Experience

Information Literacy Goal	Developing Competency (Start of Foundations)	Basic Competency (End of Foundations)	Accomplished (Capstone)
Defining the Assignment	<p>Selects a topic that is minimally consistent with the assignment.</p> <p>Identifies obvious keywords.</p> <p>Develops search strategies for the topic.</p>	<p>Develops a thesis statement or research question.</p> <p>Identifies key concepts that describe the topic.</p> <p>Develops effective search strategies using keywords and synonyms.</p>	<p>Develops a persuasive thesis statement or research question.</p> <p>Recognizes that research often leads to revision of the thesis.</p> <p>Selects discipline-specific search terms, using the language of the field.</p>
Finding & Accessing Information	<p>Identifies the title and author in a citation.</p> <p>Identifies and searches at least two sources or formats (books, online databases, interviews, etc.).</p> <p>Uses information technology (computer databases, catalogs, internet, etc.) to search for, access and retrieve resources with support (from IT staff, library instruction, faculty, etc.).</p>	<p>Identifies the parts of a citation.</p> <p>Identifies and searches more than two sources or formats (books, online databases, interviews, etc.).</p> <p>Uses information technology (computer databases, catalogs, internet, etc.) to search for, access, and retrieve resources with minimal support.</p>	<p>Determines source type from a citation.</p> <p>Identifies gaps in the information retrieved to determine if the search strategy needs to be revised.</p> <p>Identifies and finds sources that are appropriate to the assignment (books, online sources, letters, interviews, etc.)</p> <p>Effectively uses appropriate information technology (library catalogs, databases, internet, etc.) to search for, access, and retrieve resources.</p>
Evaluating Information	<p>Attempts to examine sources for reliability.</p> <p>Attempts to evaluate sources.</p> <p>Relies on popular (non-academic) sources for most information.</p> <p>May not recognize whether sources are appropriate to the assignment.</p>	<p>Examines sources for reliability.</p> <p>Evaluates sources (considering reliability, validity, currency, authority, point of view).</p> <p>Uses different types of sources (e.g. scholarly and popular).</p> <p>Determines if sources are appropriate to the assignment.</p>	<p>Examines, compares and assesses information based on standard evaluation criteria (considering purpose, audience, context, limitations, etc.)</p> <p>Evaluates sources and recognizes bias, opinion, manipulation.</p> <p>Uses discipline-specific sources that are best suited to the assignment (primary, scholarly, current, historical, etc.)</p>
Using Information	<p>Identifies main concepts from resource material.</p> <p>May not recognize whether information gathered fully satisfies the assignment.</p> <p>Organizes content to minimally fulfill the assignment.</p> <p>Uses resources to make a weak conclusion.</p> <p>Weakly communicates ideas.</p> <p>Relies heavily on quotations, with some paraphrasing. Quotes sources without comment or evaluation.</p> <p>Uses information technology (e.g. Word, PowerPoint, Web sites, etc.) to complete the assignment, with assistance or support (from IT, faculty, etc.).</p>	<p>Identifies concepts and opinion from resource material.</p> <p>Determines if assignment has been satisfied or if additional information is needed.</p> <p>Organizes content to fulfill the purpose of the assignment.</p> <p>Uses resources to make a general conclusion.</p> <p>Clearly communicates ideas.</p> <p>Uses a minimal number of quotations and more paraphrasing than quotation</p> <p>Uses information technology (e.g. Word, PowerPoint, Web sites, etc.) to complete the assignment, with minimal support.</p>	<p>Integrates new information with previous knowledge.</p> <p>Synthesizes concepts, ideas or viewpoints from the resource material.</p> <p>Effectively organizes content to support the format, purpose, and audience of the assignment.</p> <p>Uses the resource material and previous knowledge to make appropriate conclusions.</p> <p>Effectively communicates ideas.</p> <p>Restates concepts in own words with quotation/paraphrasing used effectively.</p> <p>Effectively uses information technology (SPSS, web editing, digital imaging, etc.) to complete the assignment.</p>
Understanding the Ethics of Information Use	<p>Demonstrates minimal understanding of plagiarism.</p> <p>Demonstrates limited knowledge of copyright laws regarding print and online sources.</p> <p>Uses appropriate documentation style for citing sources, but with widespread error.</p>	<p>Understands issues of plagiarism regarding print and online sources.</p> <p>Observes copyright laws regarding print and online sources.</p> <p>Uses appropriate documentation style for citing sources, with minimal error.</p>	<p>Writes with academic integrity. Understands process of how knowledge is produced, organized, and disseminated within a community of scholars.</p> <p>Understands intellectual property, copyright, and the fair use of information.</p> <p>Consistently cites sources in an appropriate documentation style.</p> <p>Understands the reasons for citing sources and giving credit.</p>

Appendix C: Examples of Assignments for Developing Information Literacy



1. Define: The information literate student will define what one needs to learn, why one needs to learn this topic, and determine the nature and extent of the information needed.
2. Find & Access: The information literate student will find and access information addressing the topic effectively and efficiently.
3. Evaluate: The information literate student evaluates information and its sources critically.
4. Use: The information literate student will use the information effectively to accomplish a specific purpose.
5. Ethics: The information literate student will use the information ethically within the norms of academic discourse.

Assignment	Description	*IL Goal Addressed
Annotated Bibliography	A bibliography with summative and/or evaluative text regarding each source.	1, 2, 3, 4, 5
Detailed Outline	Students create a detailed, organized outline that would serve as the outline for a research paper. Could include fully written introduction and conclusion paragraphs.	1, 2, 3, 4, 5
Research Journal	Students record their thoughts about the sources they read while researching. Make connections to other sources.	1, 2, 3, 4, 5
Research Paper	Write a multiple page paper that references reputable sources, quotation and paraphrase weave well into text, reference/works cited list, could have guidelines on number and type of sources and suggested resources.	1, 2, 3, 4, 5
Oral Presentation	Emphasize the information literacy skills inherent in an oral presentation including use of reputable sources, reference to sources during presentation, citation of images in ppt, reference/works cited list.	1, 2, 3, 4, 5
Consumer Literature/Brochure	Create a brochure on a given topic for a consumer audience (i.e. an infectious disease, education resources for children with special needs)	1, 2, 3, 4, 5
Literature Survey	A comprehensive review of the work on a particular topic.	1, 2, 3, 4, 5
Point-Counterpoint Presentation	Present different sides of a controversial issue. This could be accomplished through an individual or group presentation, debate, student creation of a pro/con website or annotated bibliography, etc.	1, 2, 3, 4, 5
Laboratory Write-Ups	In addition to writing up the methods and results of a given lab, have student incorporate previous works that have already been done on the topic, creating an introduction that supports their experiment.	1, 2, 3, 4, 5
Article Summaries	Students read a topical article and submit two paragraphs – one paragraph to summarize and a second paragraph to analyze the text.	2, 3, 4, 5
Information Source Comparison	Compare and contrast two types of sources on the same topic (i.e. magazine vs. journal article; Wikipedia vs. Subject-encyclopedia)	3, 4, 5
Weaving Sources Into Business Communication	Have students write emails or letters that weave reputable sources and/or statistics into the text. For example, if recommending a certain software purchase, reference sources that support this purchase.	1, 2, 3, 4, 5

Website or Blog	Create a website or blog that addresses a certain topic. Include references, each page/post is a different facet of the topic, identify audience for the site.	1, 2, 3, 4, 5
Editorial	Write an editorial piece in response to an article in a newspaper.	1, 2, 3, 4, 5
Explore How Scholarship Changes Over Time	Have students compare/contrast articles published on the same topic from two different time periods. For example, a scientific topic or social issue covered in the 1920's, 60's, and today. Or compare/contrast the evolution of publishing such as newspaper editorial/blog and open-access encyclopedia/traditional print subject encyclopedia.	1, 2, 3, 4
Scientific Research Covered in the Popular Press	Using an article published in a magazine or newspaper that references a scientific study, track down the original study or journal article and evaluate the representation of the original research in the popular press source.	3, 4, 5
Analyzing Statistics	Researching behind the numbers to find out how the data was compiled and who did the compiling	1, 2, 3, 4, 5