Ithaca College Library - User Engagement

Library Mission Statement:

To enhance teaching and learning at Ithaca College through the provision of flexible, diverse, and user-centered information services and resources.

The Library’s Strategic Priorities:

Flexible Resources: The library will develop access to content that meets the diverse needs of the various programs across the College.

Allocated funds have been aligned with curricular needs and changes – liaison librarians have the flexibility to allocate funds by format (monographs, multimedia, serials). Online access to resources has been expanded through reallocation of funds previously used for purchase of physical content. Document delivery service established for journal article requests from Doctor of Physical Therapy students and faculty when the program moved to our campus.

User-Centered Services: The Library will develop and deliver high quality, personalized information services that are based on user preferences and a connection to academic programs.

Many services have been automated including Interlibrary Loan, networked printing, streaming media, document delivery, campus delivery of materials. Additionally, the library eliminated fines, implemented 24/5 operating hours during the academic semesters, established quiet and group study floors, and installed the Digital Media Lab in response to student requests.

Outreach, Marketing, and Collaborative Partnerships: The Library will engage in outreach and collaborative activities that enhance teaching and learning at the College and expand possibilities for productive partnerships.

The library collaborates with Digital Instruction and Technology Services (DIIS) to staff a tech support service on-site. We support the annual Finger Lakes Environmental Film Festival via the purchase of media. We participate in the TELE Collaborative with DIIS and the Center for Faculty Excellence to introduce faculty to collaborative learning, scholarly communication initiatives, the institutional repository, and course management system enhancements. We collaborated with DIIS staff in the selection and implementation of a networked print management system for student printing across the campus.

Education for the Information Age: The library will develop multiple opportunities for students to acquire information literacy skills and faculty to enhance their research skills.

See the section in this document on Library Instruction.
Continuous Improvement:

_The library will develop strategies that aim for sustained improvement by engaging users in an ongoing dialogue and continuously monitoring the allocation of personnel and other resources in support of our mission._

The Library makes a concerted effort to gather feedback from our users and to assess our services and resources. Below are outlined some of the mechanisms that are used to collect information from users and the ways in which the library staff has responded to that information.

**Talkback**

The library’s homepage has a feature called Talkback, which invites users to submit questions or comments to the library staff. These are forwarded to the appropriate staff member, who posts a response in a timely manner on the website.

![Talkback Questions by Category](image)

*Figure 1. Breakdown of questions submitted to Talkback by category over five semesters (Spring 2014 through Spring 2016)*
This service is a highly visible and transparent way for us to interact with library users, and interactions are a rich source of ideas for improving the library. As shown in Fig. 1, questions dealing with the library’s physical facilities are especially common.

The Library has made several important changes in response to comments or questions from Talkback, including:

- Conversion of the 5th floor restrooms to gender-neutral
- Installation of a water bottle refilling station on the main floor
- More supplies available for checkout at the circulation desk: calculators, colored pencils, protractors, extension cords
- Installation of a charging station for mobile devices on the main floor
- Creation of more collaborative study space
- Addition of Library Café Service
- Addition of 24/5 Operating Schedule during the academic semesters
- Elimination of Library fines for overdue materials
- Addition of Mac computers for public use (laptops and desktops)
- Additional PC desktop machines

We also use Talkback queries to develop FAQs such that requested information is easily discoverable on our website. The answers to Frequently asked topics (textbooks, technology) are featured on the Talkback site. Talkback complaints about the Gannett Center’s poor wireless service allowed us to work with DIIS to address that issue with an increase in the number of wireless access points added to the building in strategic locations.

**Service Point Study**

In Spring 2016, the Library conducted a satisfaction survey of our four main service points. We positioned an iPad presenting the survey at each service point (Circulation, Research Help, Music, and Multimedia) for one week. Each patron visiting the desk was asked to complete the survey following their interaction. The survey consisted of two questions.

1. “How well were your needs met?”
2. “How would you rate your overall experience?”

Respondents answered each question in terms of one to five stars.

This survey demonstrated a high rate of patron satisfaction for all service points. Out of the possible five stars, no service point scored below 4.5 on either question.

<table>
<thead>
<tr>
<th>Service Point</th>
<th>Question 1</th>
<th>Question 2</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multimedia</td>
<td>4.94</td>
<td>4.88</td>
<td>17</td>
</tr>
<tr>
<td>Circulation</td>
<td>4.62</td>
<td>4.56</td>
<td>120</td>
</tr>
</tbody>
</table>
### Service Point Use Data

In January 2015, the library began to collect more detailed data about research assistance provided to users. 3812 interactions have been recorded through the end of the Spring 2016 semester.

#### Data Analysis for three academic semesters (Spring 2015, Fall 2015, Spring 2016)

- 82% of interactions were in-person, 11% conducted via email, 7% conducted via phone
- 63% of the interactions were 0-5 minutes in duration, 27% 5-15 minutes in duration, 6% 15-30 minutes in duration, 4% more than 30 minutes in duration
- 85% of the users were undergraduates, 12% faculty/staff, 3% graduate students
- For the interactions where a subject area was identified: 33% music, 15% social sciences, 14% health sciences, 14% humanities, 10% communication, 5% natural sciences, 5% business

#### Outcomes

1. While many academic libraries have eliminated staffed research assistance desks, we find that on-site visits to our service points have not declined.
2. We have adopted screen-sharing and other technologies to support virtual services.
3. We review the content of the questions and use this data to update our online course guides, subject guides, FAQs, library signage, library website, and select new materials for the collection.

### Website Usability Studies

The website functions for many of our patrons as the primary point of contact with the library’s collections and services, so we periodically conduct usability studies to assess the efficacy of the site in helping users find the materials they need. Below is a summary of our recent studies.

#### Spring 2012 – General Usability

For this round of testing the Web Content Team presented five test subjects (all students) with a set of eleven questions. The question set included both task-based questions (e.g., find the full text for a known citation) and questions relating to finding information on the website (e.g., find the loan period for a DVD). Sessions were recorded (screen and voice) with Captivate. The study was performed with an eye to the rollout of a new website in January 2013.
What We Learned

1. Students had difficulty selecting the appropriate search tool based on the type of material they were looking for. Some subjects tried to find journal articles using the catalog.
2. Students were more inclined to scan long lists of research guides rather than use the search feature or dropdown.
3. Policy information and information on citation styles were easy to find.
4. When presented with a known citation in APA format, students were unsure what element of the citation they should use for searching. It was unclear if this resulted from difficulty parsing the citation or from a lack of understanding of the search tools.
5. Students found the “widgets” on the “Writing and Citing” page puzzling and difficult to navigate.
6. Students had difficulty finding where to go for help if they experienced database access problems.
7. The “Ask Us / Tell Us” label that we were using for FAQs and Talkback, respectively, was not well understood.

Outcomes

1. Added a graphic demonstrating how to read a citation to the Articles page.
2. The “widget” format was dropped in favor of a more straightforward way of presenting the content.
3. Help information for database connection problems was added to our EZProxy connection page, making it more “point of need” for the user.
4. Dropped the “Ask Us / Tell Us” label, separating the FAQs from the Talkback feature. Displayed more Talkback questions to make it clearer what this feature is.

Fall 2012 – Research Guides

For this round of testing, focused on our research guides, we had the unique opportunity to work with a human-computer interactions class. Students in the class served as test subjects and also helped us to analyze the results of the study.

The library’s research guides are authored by a number of librarians and encompass various levels of specificity, ranging from a broad subject area like biology down to an assignment for a specific course. One goal of this study was to develop a list of best practices for the authors of research guides.

Interviews with the students were more extensive than in most usability tests. We not only asked about features of the research guides but also about their research practices in general.
What We Learned

1. Research guides were not widely used or even known about among the students.
2. Students found bibliographic databases to be the most useful tools on the research guides.
3. Opinions on the use of images and videos in research guides were mixed.
4. Navigation (a table of contents) and organization were important to students.
5. Length of the guide was not important students, as long as the guide was well-organized and easy to navigate.
6. Students felt that some consistency of layout across guides would be beneficial.
7. Students favored topical organization over organization by resource format.
8. The right-hand column was often ignored.

Outcomes

1. We established guidelines for the layout of research guides, which included the following:
   • Librarian contact information should be at the top right of each guide.
   • Except for very short guides, all guides should have a table of contents at the top.
   • Except for very short guides, all guides should have a “Best Bets” area near the top that lists the most important databases.
   • Primary content should be located in the left column, with the right used for supplementary information.
2. The “all items by type” box (which organizes resources by format) was retired.
3. A new “Dashboard” box was created and required on all guides. This box consolidated a set of common links and tools that we felt should be available from any page.

Fall 2013 – Mobile Devices

Having gone live with a responsive site in the spring of 2013, we wanted to begin assessing the site on mobile devices. Google Analytics showed us that the Apple iPhone was the most common mobile device used to view the library site, so we used an iPhone 4S for testing. We recorded the sessions on the iPhone using the Magitest App.

We used a set of questions similar to those used in Spring 2012 round of testing. The goal was to assess how effectively students could perform basic library-related tasks through the site on a small device.

What We Learned

1. Only one of the five participants reported “occasionally” using the website from her phone.
2. Users liked the links in the footer, but found the footer hard to access on long pages.
3. Basic catalog searching on the phone was easy for users.
4. The library hours were easy to find. (This was significant as it is often reported that hours pages are frequently viewed by mobile users.)
5. The circulation policy page was far too long and poorly organized. Users had to scroll extensively to find answers to simple questions.
6. Users were most interested in being able to find physical library materials from their phones.

Outcomes

1. News items and a poster that emphasize the site’s responsiveness.
2. “Footer” content was displayed as a side panel at small viewports so that users could get to it without scrolling all the way to the bottom of a page.
3. The circulation policy page was modified to place the most general information at the top of the page in collapsed chunks based on user type.

Spring and Fall 2015 – Discovery Layer

The year 2015 presented us with a unique opportunity. We were implementing the ExLibris Primo discovery layer (locally branded “Argos”) over the summer, so we had a chance to do pre- and post-discovery testing using similar sets of questions.

We used six task-based questions including known-item searches as well as topic-based searching (i.e., “find resources of type X about topic Y”). For the topic-based questions, reference librarians were asked to evaluate the resources found. Our goal was not only to assess the ease of finding materials, but to assess the quality of the items found.

What We Learned

1. Students in the pre-Primo group had a difficult time knowing where to search for items (c.f., point 1 from Spring 2012 testing, above). Primo essentially eliminated this problem.
2. Primo made it far easier for the test subjects to find a dissertation.
3. There was no statistically significant difference in quality between the materials found by the two groups.

Outcomes

• Primo remains positioned as the primary entry-point for the library’s collections.
Website Analytics

The IC Library website is connected to a Google Analytics account, allowing us to closely monitor patterns in the use of the website.

![Figure 2. Site traffic for April 2016 in Google Analytics.](image)

What We’ve Learned

1. In a given (non-break) month, we average about 45,000 visits to the website. Daily numbers range from several hundred visits on Saturdays to nearly 2,000 on weekdays. Peaks in number of visits are generally on Mondays and Tuesdays (see Fig. 2, above).
2. “Mobile” visits to the site (i.e., phones and tablets) account for roughly 15% of our traffic. This number is higher during break periods. The highest recorded value was 28% in August 2015.
3. By far the most common mobile device used to access the site is the Apple iPhone, which accounts for about 40% of our mobile traffic.
4. The Chrome browser accounts for more than half of our traffic.
5. Our users tend to stay current with browser versions. We have very few users using older software.
6. The guides in the “Research 101” are among the most accessed pages on the site, especially the “Primary and Secondary Resources” guide, which accounts for most of our international traffic.
7. The most visited non-research-guide pages are the ones listed in the main navigation bar, especially “Databases” and “Catalog.”
8. Use of the course guides, FAQs, and online tutorials is linked to instruction sessions.
9. Citing sources and locating business information are the most frequently used tutorials.

Outcomes

1. Knowing that the vast majority of our traffic comes from modern browsers means that we can implement value-added features that may depend on newer web technology (e.g., the location of items map feature in the catalog and the Primo discovery layer).
2. Being able to identify the most visited research guides allows us to exercise special scrutiny over these guides in terms of frequent link-checking and keeping them up to date.

3. Our significant and growing percentage of mobile traffic has encouraged us to continue developing in a responsive, mobile-friendly manner, leveraging the most recent tools and best practices.

In addition to Google Analytics, we have also used CrazyEgg, a service that generates “heat maps” showing the frequency and location of clicks on a given page (see Fig. 3). This service was especially helpful as we planned the site redesign for Spring 2016. For example:

1. Low click rates on the “Ask a Librarian” button in the header prompted its removal.
2. High click rates on “Databases” suggested that this might be a more effective label than “Articles” in the main navigation area.
3. High click rates on “Reserves” indicated that this should remain in the main navigation area.
4. Low click rates on the news item carousel and the “Talkback” section suggested that positioning these features “below the fold” would be acceptable.

Figure 3. Heat map from CrazyEgg displaying frequency of clicks at specific points on Fall 2015 version of the IC Library homepage.
Library Instruction

Library instruction is provided by a team of liaison librarians who actively engage with faculty and students in the departments that they serve. The library has developed a two-prong approach to supporting information literacy development for our students. A coordinated approach is utilized for engagement with first-year students and 100-level classes. For upper-level courses, individual liaison librarians work with departmental faculty members to develop instruction sessions that align with course needs, including specific assignments and overall course learning outcomes. The library has also collaborated with a pilot group of academic departments to develop models that link student learning outcomes in a major’s required course sequence to information literacy skill development and engagement with targeted library resources.

Collaborative Review of Syllabi and Key Assignments for Core Courses in Degree Program

- Identify Learning Outcomes to be Supported and Related Research Skills to be Developed
- Identify Information Resources to be Introduced
- Identify Skills to be Reinforced & Further Developed
- Build Online Course Guides with One-Minute Paper Feedback/Assessment Tool
- Present to Faculty for Review
- Review Assessment Data and Revise Guides/Instruction as Appropriate

We initially utilized the Association of College and Research Libraries (ACRL) Information Literacy Standards in framing library/research skills. In 2016, ACRL released The Framework for Information Literacy in Higher Education. The framework contains threshold concepts with associated knowledge practices. We are currently working with the Occupational Therapy department in a pilot project to map their SLOs to the introduction of library resources/skills and knowledge practices as outlined in the Framework.

First-Year Students & 100-Level Classes

Library instruction sessions are attended by many first-year students, either in First-Year Seminars and/or 100-Level Courses (primarily Academic Writing I & II). Librarians have developed Research 101, a series of online guides, some of which have linked interactive quizzes to reinforce the introduced concepts. Faculty can embed the quizzes in the learning management system and receive an email when a student completes a quiz.

In Spring 2016, the liaison librarians developed SLOs for our work with first-year students. Instruction sessions for this constituency will focus on the attainment and demonstration of these outcomes. The librarians are also creating a repository of instructional activities to share and reuse.
Student Learning Outcomes Appropriate for First-Year Students (2016)

Search Strategies (S)
First-Year Students who have had library instruction in this area can:

S1 identify and combine keywords for a research topic

S2 construct a search strategy to find an appropriate book, e-book, dvd, score, etc. on a given topic within the library catalog (learning keyword searching, limiting, truncation, subject links, and retrieval)

S3 construct a search strategy to find appropriate articles on a given topic using library databases (learning keyword searching, limiting, truncation, subject links, and retrieval)

S4 distinguish between the catalog, databases and Google/Web, and select their resource appropriately identify the best databases relevant to a topic

Research Question/Statement (Q)
First-Year Students who have had library instruction in this area can

Q1 develop a useable and adaptable research statement or question

Evaluating Resources (E)
First-Year Students who have had library instruction in this area can

E1 identify characteristics of and distinguish between magazines, blogs, newspapers, books, scholarly articles, encyclopedias, websites, etc.

E2 evaluate resources in order to identify those most appropriate for their information need

Citing Resources (C)
First-Year Students who have had library instruction in this area can

C1 define plagiarism

C2 understand how plagiarism can be avoided by properly citing the work of others

C3 access citation guides and tools available via Library resources

C4 correctly and appropriately cite the work of others

C5 read and interpret a citation, and locate the resource based on that citation
Research Process (P)
First-Year Students who have had library instruction in this area can

P1 summarize the research process

Collaborative Information Literacy Projects with Academic Departments

The School of Business recognized that students in their capstone courses were not fully prepared to complete course outcomes. The Business Librarian and the College Librarian reviewed the syllabi for all required courses in the school’s curriculum. We developed a map for each year of the curriculum that identifies research skills and library resources to be introduced. We also developed an infographic that illustrates the linkages between skill development as a student progresses through the curriculum (see p.17). We use this map to develop course guides and tutorials that support curricular SLOs.

We used the same approach in working with the faculty in Speech Pathology Language and Audiology. (See p.18) A draft document has been developed for the Biology department (See p. 19). The goal of these departmental collaborations is to reinforce skill and content acquisition in support of student success.

Instruction Sessions Academic Year 15/16

In Fall 2015, the library began to centrally collect detailed data for all instruction sessions offered during the academic semesters. 6952 students attended 256 sessions (562 graduate students and 6390 undergraduate students).
Sessions by Program/School

First-year students enroll in an Ithaca College Seminar and an Academic Writing course, so many of these students have two instruction sessions with a librarian.

Humanities & Sciences = 92 (Includes 36 Academic Writing Sessions)  
Health Sciences & Human Performance = 53 Sessions  
Park School of Communications = 42 Sessions  
School of Music = 22 Sessions  
School of Business = 12 Sessions  
First-Year Seminars = 35 Sessions

Beginning in Fall 2016, we will include the SLOs we developed for first-year students in our data collection. The SLOs are very broad and can be addressed at any point during the undergraduate/graduate experience. We also added two new data categories: Session Characteristics, and Teaching Method(s) Used.

SLOs taught: Search Strategies, Research Question/Statement Development, Evaluating Sources, Citing Sources, the Research Process, Other

Session Characteristics options are: Research Guide Used, Assignment-Based Lesson, Library Tour Given, Helped Design Assignment, Other.
Teaching Method(s) are: Lecture or Demonstration, Active Learning, Flipped Instruction, Other

One Minute Paper Assessment

The library’s online course guides that are used in librarian-delivered research instruction classes include a link to a short survey inviting users to anonymously answer the following two short questions at the end of the library session:

1. When searching for information, what will you do differently based on what you learned in today's session?
2. What questions do you still have about doing research?

This survey is based on the One Minute Paper (OMP) which is a well-known formative assessment tool used to encourage feedback from students and is widely used in the academic setting. This reflective survey helps the librarian instructor understand what and how well information has been learned which is difficult to gauge during a one-shot instructional session.

What We’ve Learned

Responses to the first question revealed that students will do the following differently based on the instruction received:

1. The most common response was students indicating that they would search for information differently and make use of various search strategies such as developing keywords, utilizing Boolean operators, truncation, parentheses, and quotations that will help to broaden or narrow search results.
2. The second most frequently stated change in behavior was students would use library resources and databases to find information.
3. The third most popular response was students stating they would make use of citation programs in databases including tools such as Zotero and Mendeley.

Responses to the second question revealed that students have questions on the following topics:

1. The most frequently stated response was that students did not have any questions at the end of the library instruction session.
2. The second most common response was students had questions about citations such as how to format citations correctly, and how to use Zotero or Mendeley.
3. Next students stated that they still had questions about how to best search for and evaluate information.
4. Finally, students indicated not knowing which resources were the best to use for finding information.

Outcomes

1. A small working group of reference and instruction librarians was created to focus on improving library instruction targeted to first-year students. The group has created the following:
   a. Identified Student Learning Outcomes for all first-year students in the following areas: search strategies, research question or statement, evaluating resources, citing resources, and the research process. (see p.11-12)
   b. Developed a spreadsheet of library instruction activities that includes a detailed description of the activity, amount of time needed to complete the activity, materials required, and the corresponding SLOs the activity addresses.
   c. Created a collection of instruction resources that focuses on instructional practices and theory.

2. We have developed a Research 101 Series of online guides that take students through the research process and cover such topics as finding articles, primary vs. secondary sources, popular vs. scholarly sources, evaluating resources, conducting a literature review, annotated bibliographies, and plagiarism. Several of the guides include an interactive quiz that faculty can embed in the Learning Management System. Faculty are notified via email when students complete the quiz. The plagiarism tutorial is the most frequently used.

3. We also share student feedback with faculty members and sometimes send short screencasts that address student questions.

Course Guides

Online course guides are created for all first-year seminars (ICSM) and upper-level classes. The guides are designed to address student learning outcomes for each course, with targeted resources identified and annotated as to their relevance in relation to the SLOs. The use of guides is tracked via Google Analytics. The Library also creates FAQs based on questions submitted by users and links them to appropriate course guides.

In AY13/14, first-year seminar guides were accessed 9206 times. The average seminar guide was viewed 82 times. 44 first-year seminar sessions were requested/offered and 1198 students attended. Librarians taught 32 100-level instruction sessions using the guides and reached 1180 students.

In AY14/15, first-year seminar guides were accessed 8030 times. The average guide was viewed 72 times. Librarians taught 68 seminar sessions and 1399 students were reached. Librarians taught 30 100-level instruction sessions and reached 1257 students.
In all years, many of the 100-level instruction sessions were associated with Academic Writing I and II.

Circulation/Interlibrary Loan

Use of physical materials in the library’s collection is reviewed on an annual basis, as is the use of online resources. This data is used to determine how to allocate available funds to optimally support user needs. With electronic resources, we have moved some low-use resources from site license access to a set number of simultaneous users. User requests for materials, in all formats, not owned by the Library are reviewed on a monthly basis. This data is used to fill collection gaps in terms of subject matter and specific titles. The library also processes User Purchase Requests for materials to be added to the collection.

The Library and Student Development

The library is a major student employer on campus. We assess the work of our student employees and offer a series of developmental activities for student employees who have management responsibilities. In collaboration with other campus departments, we have organized leadership development, customer service, and professional ethics workshops for student managers. We are working with students to document their functional tasks and skill development as a component of the new co-curricular transcript.

Digital Commons and Student Achievement

In Spring 2016, the Library became a member of the Digital Commons network when we implemented our institutional repository – Digital Commons @IC. Initial content in the repository includes graduate student theses and undergraduate honors papers. Data reports demonstrate that these materials, which are discoverable on the web, are being downloaded and viewed. Future plans call for more engagement with student publications and organizations.
CORE RESEARCH SKILLS

1. Navigate an IC Library online course guide
2. Retrieve financial information from SEC docs
3. Analyze a company's ethical practices
4a. Construct a SWOT analysis of a company

2. Find article from a citation
2b. Develop search strategy to retrieve scholarly articles
2b. Analyze forecast information from independent financial sources
4b. Analyze corporate management practices and systems

3. Locate journal article on public company
3a. Generate list of comparable companies within an industry
3a. Locate relevant industry and market research reports

4. Create article abstract
4a. Locate primary and secondary SIC and NAICS codes
4a. Analyze demographic characteristics using census data

5. Critically analyze articles using APA, Understand plagiarism
5. Locate legal cases
5a. Analyze consumer demographic and psychographic characteristics using marketing resources

6. Develop thesis statement / research question
6. Locate law review articles
6. Analyze operations management functions in companies and industries

7. Distinguish between scholarly, trade, and popular articles
7. Locate legislative and regulatory information
7. Identify key trade publications, associations, and industry statistical reports

8. Locate content in eBooks
8. Generate a political and economic analysis for a specific country
8. 100 LEVEL CORE COURSE

9. Locate corporate ethical information in social responsibility / sustainability reports
9. 200 LEVEL CORE COURSE

10. Locate company histories and chronologies
10. 300 LEVEL CORE COURSE

11. Locate case studies
11. 400 LEVEL CORE COURSE

12. 400 LEVEL CAPSTONE COURSE

KEY

- CORE COURSE
- CAPSTONE COURSE
The document that details the library resources associated with each research skill is linked in the Roadmap.
<table>
<thead>
<tr>
<th>YEAR 1</th>
<th>YEARS 2-3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Navigate Online Subject and Course Guides</td>
<td>Create an Descriptive Annotation for a Scholarly Article - Summarize Main Points</td>
<td>Write a Research Report/Paper in Proper Scientific Format with all the necessary sections</td>
</tr>
<tr>
<td>Develop a Research Topic/Thesis Statement</td>
<td>Distinguish Between Review Articles and Primary Research Articles</td>
<td>Report Results and Conclusions coherently and logically via posters, oral presentations, or scientific reports</td>
</tr>
<tr>
<td>Locate a Journal Article Given a Citation</td>
<td>Understand Information Flow/Scholarly Publication Cycle in the Sciences (Peer Review)</td>
<td>Graphically present information in a clear manner (including basic statistical analysis)</td>
</tr>
<tr>
<td>Distinguish Between Scholarly, Popular, and Trade Sources in the Scientific Literature</td>
<td>Conduct Background Research and Develop a Clearly Defined &amp; Manageable Research Proposal</td>
<td>Locate, Evaluate, and Synthesize Information from a Variety of Resources</td>
</tr>
<tr>
<td>Distinguish Between Primary, Secondary, and Tertiary Sources</td>
<td>Consider issues of format and diction in writing reports for specialist and non-specialist audiences</td>
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<tr>
<td>Identify Parts of the Scientific Article</td>
<td>Compare a scholarly article, government report, and nonacademic article treating the same topic</td>
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<td>Cite an Article Using CSE Style</td>
<td>Develop a Research Plan Appropriate to the Investigative Method</td>
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<td>Evaluate Websites</td>
<td>Articulate Criteria Used When Evaluating Resources</td>
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<td>Recognize Plagiarism</td>
<td>Use Information in a Legal and Ethical Manner in Accordance with Intellectual Property &amp; Copyright Standards</td>
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<td>Generate Keywords and Search for Articles in the Scientific Literature</td>
<td>Summarize Research Findings</td>
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<td>Store Saved Searches, Search Results, and Create Search Alerts/Updates</td>
<td>Distinguish Between Supported and Unsupported Conclusions in a Given Study</td>
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<tr>
<td>Locate Books, DVDs, and eBooks</td>
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<td>Use Taxa Names to Search for Articles in the Scientific Literature</td>
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