DRAFT REPORT:

INFORMATION LITERACY
AT CARLETON

May 26, 2004

Information Literacy Review Subcommittee

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Contents:

1. Introduction ..............................................................................................................2
2. Summary of Departmental Definitions of Information Literacy......3
3. Summary of Skills and Assignments for Individual Departments.....5
4. Summary of Information Literacy Findings.........................................................16
5. Recommendations for Assessment and Future Activities..............17

In order to assess information literacy, our committee conducted the following activities during winter term, 2004:

1. Conducted a survey of departments on campus to learn how they define Information
   Literacy and how they teach it in their courses;
2. Reviewed the reports of the departments that participated in the Mollie Information
   Literacy Project.
I. Introduction
   (Jamie Monson and Carolyn Sanford)

   a. Review Activities

   This review was conducted in response to a charge from the ECC to learn two things about Information Literacy at Carleton: how the college defines Information Literacy within departments; and where in the curriculum students have opportunities to develop their skills in Information Literacy. To this end, our committee carried out the following activities during winter term, 2004:

   1. Conducted a survey of departments on campus to learn how they define Information Literacy and how they teach it in their courses;

   2. Reviewed the reports of the departments that participated in the Mellon Information Literacy Initiative (English, History, Geology, Economics, Classics);

   3. Pulled together the quantitative data that we already have about Information Literacy, from the 2001 CSEQ, the ACE/CIRP Freshman Survey, and the First Year Student Library Survey.

   b. Preliminary Conclusions

   The review did not yield the number of responses from departments that would have allowed us to put together a comprehensive summary of what is happening at Carleton with Information Literacy. This report is therefore largely constructed from the experiences of those departments that participated in the Mellon Initiative and those few who responded to our survey.

   The minimal response to our request for information from departments may be instructive. The committee felt that one of the most positive aspects of the Mellon Initiative was the opportunity it offered to departments to have wide-ranging conversations about Information Literacy. It may be that most non-Mellon departments simply did not have the time to engage in such conversations on their own. For that reason, one of the recommendations of the committee (below) is that curricular grants be made available to departments to have these kinds of conversations.

   On the basis of the responses we received, and on the experiences of the Mellon departments, we have come to the following conclusions about Information Literacy generally at Carleton:

   i. Information Literacy is fundamentally about student learning.

   ii. Departments can benefit greatly from in-depth discussions about Information Literacy where faculty are able to share their course assignments and goals. These
discussions may stimulate more curricular cohesion and coordinated assignments, as well as useful ways of understanding what students are learning within courses and within the department more broadly.

iii. When departments become involved in Information Literacy conversations and assessment, curricular change can take place in a coordinated way. Adjustments to curriculum and to assignments may be subtle or more substantial, depending upon the interest of the department and of individual faculty.

The departments we surveyed were generally satisfied with the definition of Information Literacy developed as part of the Mellon Initiative in coordination with library staff, with some modifications. A summary of definitions is in Section 2. In Section 3, there are brief summaries of what responding departments are already doing with Information Literacy. The final section of this report details our recommendations for future Information Literacy activities and assessment at Carleton.

2. Defining Information Literacy
(Compiled by Matt Semanoff)

A. Definition from the Library Committee

Information literacy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”

- Information Literacy Competency Standards for Higher Education from the Association of College & Research Libraries (ACRL)

In liberal arts colleges, librarians and faculty assist students in developing a sophisticated relationship with information by fostering appropriate expectations for information sources, effective search strategies, critical evaluation of information sources, and respect for the intellectual work of others. Students who are information literate can:

- Ask intelligent and creative questions
- Identify information sources
- Locate and access information sources successfully
- Judge the quality, relationship, and relevancy of information sources to their questions
- Determine the strengths and weaknesses of information sources
- Engage critically with information sources to interpret and integrate divergent points of view
- Use information sources ethically

-MITC First-Year Information Literacy in the Liberal Arts Assessment Proposal Draft written by members of the committee
B. Definitions from Departments

In addition to the departments participating in the Mellon Information Literacy Grant, we received responses from the departments of Art and Art History, Chemistry, Political Science, and Romance Languages and Literatures. With the exception of Humanities, all divisions are represented by these departments. A comparison of the definitions provided by those departments participating in the grant with the non-grant departments reveals a consistent definition of information literacy. It is not entirely surprising that there is such consistency in the definition given the fact that the department chairpeople were given the library’s overarching definition as well as examples from some of the departments participating in the grant. Nevertheless, we do not see any glaring disagreements with the definition posed by the library. Moreover, departments across divisions are in agreement concerning critical evaluation of research.

Although the various departments phrased their definitions differently, there was consensus that information literacy involves:
- the ability to pose problems
- the understanding of strategies necessary to answer those problems
- the ability to evaluate the evidence used for argumentation.

The Geology department poses a goal for information literacy which can be revised to express the attitudes of the departments responding to our survey: An information literate student should be able to search and locate documents and know how to evaluate the sources they locate. They should be able to frame a research question, determine whether it can be answered, and where one would get the information to answer it through the literature or original research.

Asking questions appropriate to the discipline appears to be one of the most idiosyncratic aspects of information literacy. Nearly all department responses have remarked on the importance of not only being able to pose good questions, but the ability to determine whether or not the questions can be answered. I can easily imagine a student of Political Science who has experience manipulating census data wanting to pose similar questions in a Classics course or even certain History courses only to be told that the question is impossible to answer. While this example is pretty extreme (i.e. obvious), most of the department responses suggest that the ability to ask sophisticated research questions is something that comes quite late in the curricula.
3. Summary of Skills and Assignments for Individual Departments
(Compiled by Mollie Freier, Charles Priore, Heather Tompkins, and Ann Zawistoski)

Art and Art History Department

Overview:
The Department of Art and Art History has provided a definition for information literacy, which is outlined in the following section.

Information Literacy skills and assignments:

Introductory, Intermediate and Advanced classes

➤ Ability to formulate and answer questions that pertain to artworks (i.e. painting, sculpture, photography, architecture and visual culture) by combining the skills of formal analysis with the study of primary and secondary textual sources.
➤ Ability to locate and assess both visual and textual sources in traditional as well as electronic archives
➤ Familiarity with major journals, reference books and databases as well as with the layout of the library and the use of certain services such as inter-library loan and the reference desk.
➤ Ability to organize a literature review and bibliography, including a basic awareness of different styles and formats for scholarly writing.
➤ Familiarity with a variety of theoretical issues within and methodological approaches to the discipline.
➤ Awareness of guidelines concerning academic integrity and plagiarism
➤ (Studio Only) Ability to research techniques for safe fabrication of artworks: and to locate and assess pertinent material safety data information.

Departmental Assessment:
None listed.
Chemistry Department

Overview:
The chemistry department has provided an inventory of what is done in individual classes regarding the teaching of information literacy, based on the ECC's definition of information literacy. The department noted that the term "research" can be interpreted in different ways, particularly in the sciences. They are careful to differentiate between library research and laboratory or field research (where new knowledge is produced).

Information Literacy skills and assignments:
Introductory classes (100 level)
Assignments
➢ Short reports on science articles.
➢ Papers based on web resources.
➢ Discussion of reliability of web sources.
➢ Papers based on standard textbooks.
Skills / Tools
➢ Understanding of current scientific endeavors.
➢ Literature citation, particularly of web sources.

Intermediate classes (200 level)
Assignments
➢ Use of secondary and tertiary (textbook website) sources to find chemistry procedures.

Advanced classes and comps (300 and 400 level)
Assignments
➢ Various paper assignments (including comps), requiring use of primary and secondary sources and correct literature citations.
➢ Use of secondary sources to find projects to replicate in the lab.
➢ Oral presentation of results from a recent chemistry paper.
➢ Instruction on SciFinder Scholar and EndNote (taught by librarian).

Skills / Tools
➢ Exploration of primary literature and finding cited references.
➢ Using government documents to find environmental chemistry regulations.
➢ Understanding when books are useful (includes trip to library to look for books)

Additional Activities
➢ Chemistry department seminar and journal club: students are invited to read a chemistry paper and discuss with interested students and faculty.
➢ Summer Research Program: Students who work on research over the summer take an independent study course and read primary and secondary literature as preparation.

Departmental Assessment:
None listed.
Classics

Overview:
The Classics department participated in the Mellon grant, during which time they created a definition for information literacy in Classics, revised their comps process, and created a skills/tools grid for tracking certain skills throughout their curriculum. The goals for information literacy have focused on ensuring that their comps students are equipped with the skills needed to undertake a substantive research project in their senior year.

Information Literacy skills and assignments:
Introductory classes (100 level)
Skills / Tools
➢ Locating and citing primary and secondary sources.
➢ Using primary sources as evidence.
➢ Using the Oxford Classical Dictionary.
➢ Using specific reference tools (Mythology: Lexicon Iconographicum Mythologiae Classicae; and New Barrington Atlas)
➢ General library organization and search engines
➢ Subject-oriented search tools (Diotima)

Intermediate classes (200 level)
Assignments
➢ Response paper (5-7 pgs) based on close reading of Greek or Latin text.
➢ Reports on scholarly articles.

Skills / Tools
➢ Locating and citing primary and secondary sources.
➢ Using primary sources as evidence.

Advanced classes and comps (300 and 400 level)
Assignments
➢ Research paper (8-10 pgs) based on primary texts and evaluation of secondary literature
➢ Creation of assignments that document the skills required for information literacy.
➢ Reflective essay addressing the inclusion of items in portfolio.
➢ Research paper on a topic that fits within the senior seminar theme.

Skills / Tools
➢ Locating and citing primary and secondary sources
➢ Using secondary and primary sources to situate work in the context of the discipline.

Departmental Assessment:
The Classics department will use a Junior Skills portfolio, Analecta Technica, to assess the information literacy skills of their majors. The portfolio includes a check list of tools and assignments completed inside and outside of class that document students’ ability to use primary sources and evidence and secondary sources to situate their own work in the discipline. Students must also include a reflective essay that discusses where the student had opportunities to practice specific skills and tools and which tools they feel they need more practice.

Economics

Overview:
The economics department's goals for information literacy are to prepare students for the combs process and to prepare them for independent research in the business world or graduate school. Their working definition of information literacy in the field of economics includes acquiring familiarity with scholarly communication in the field and the abilities to critically locate, interpret, organize, and use sources to answer research questions. The department has created a table of objectives to be met at each level of courses.

**Information Literacy skills and assignments:**
Sample assignments can be found in the final Mellon Report. The department has chosen to place selected assignments designed to meet information literature objectives in the department COLLAB folder.

**Introductory classes (100 level)**
Skills / Tools
- Use of EconLit and JSTOR
- Identification of publicly available data sets
- Organization of a literature review
- Location of summary articles in core economics journals

**Intermediate classes (200 level)**
Skills / Tools
- Identification of seminal works (using the Social Sciences Citation Index)
- Identification of research questions
- Organization of a literature review that leads to a research question
- Determination of whether data exist to answer a research question
- Deeper, critical reading of articles in core economics journals

**Advanced classes and combs (300 and 400 level)**
Skills / Tools
- Sophisticated analysis of data and integration into writing
- Ability to create a testable research question
- Ability to find and organize data that can be used to answer a research question
- Ability to draw from a wide variety of sources of literature and data

**Departmental Assessment:**
The economics department will meet periodically to evaluate how well the majors are meeting the objectives laid out in the table of objectives. Particular attention will be given to how well students are prepared for their combs and how they meet the objectives as they make their way through the combs process. The department will also survey students periodically to compare with baseline surveys.

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**English Department**

**Overview:**
Information literacy in English is grounded in literary texts; ideally, it should combine knowledge of the varied methods of accessing and evaluating primary texts (and, when possible, rare or special editions of the books) with knowledge of the newest technologies involved in accessing on-line resources and evaluating those resources. Students will develop knowledge and skills in literary techniques, literary history, and scholarship and research.

Information Literacy skills and assignments:

Introductory classes (100 level)
Assignments
➢ Small group work, reading responses, close reading exercises, oral presentations, individual conferences with faculty, and performance in class discussions
Skills / Tools
➢ Formulate and answer literary questions based on formal and thematic readings of literary texts.
➢ Knowledge of and ability to ask questions about genre, formal, and rhetorical elements.
➢ Ability to ask and identify thematic questions.
➢ Ability to present, orally and in writing, reasoned, documented arguments.
➢ Close reading; and use of manuals, encyclopedias, dictionaries, concordances.
➢ Knowledge of the British and American literary tradition and some knowledge of literature and literary history outside that tradition.
➢ Introduction to secondary sources as a means to locate other perspectives, create questions, and support theoretical arguments;
➢ Recognize an argument in a secondary work and distinguish evidence from argument.
➢ Knowledge of correct use and forms for citations, bibliographies and footnotes
➢ Locate available and relevant print and electronic resources.

Intermediate classes (200 level)
Assignments
➢ Group work, performance in class discussions, essays that require both close reading and broader understanding, assignments in ENGL 200 (Methods of Interpretation)
Skills / Tools
➢ Recognize different possible interpretative strategies.
➢ Recognize and understand of the contributions of disparate fields to literary study.
➢ Understand the complexity of genre as a categorical method;
➢ Recognize and analyze of changing literary forms
➢ Deepen knowledge of the literary tradition, understand intertextuality, and develop a comparative understanding of literary history
➢ Identify and use the range of available library resources.

The English Department Information Literacy Overview is continued on the next page.

English Department (continued)
➢ Assess the authority of print and electronic secondary sources and recognize the limitations or possibilities for informational resources.
➤ Narrow a broad topic through bibliographic research and reading;
➤ Create and use bibliographies (including annotated); and develop a research project.

**Advanced classes and comps (300 and 400 level)**

**Assignments**
➤ Group work, performance in class discussions, senior seminar papers and essays in other advanced courses
➤ Specialized study in advanced courses
➤ Option for essay or exam for senior integrative exercise

**Skills / Tools**
➤ Practice and deepen skills and tools learned in intermediate classes (see the skills and tools listed above)

**Departmental Assessment:**

*None listed*
French Department

Overview:
The French department prepared the following definition of information literacy:

- Recognizing when it is appropriate to look for additional information (i.e., to perform "research").
- Recognizing what methodological approach is likely to yield results.
- Evaluating resources to determine which are the most current & authoritative, and what position they hold within the field (i.e., whether they are considered mainstream, traditional, controversial, highly questionable, etc.).
- Learning to read and interpret information critically and with subtlety.
- Learning how to assemble and present complex information in a coherent way, including adequate documentation.

Information Literacy skills and assignments:

Introductory classes (100 level)
Skills / Tools
- Students receive direct instruction from professors on how to locate and use resources in the discipline
- Library staff members are invited to initiate students into the arcana of the discipline

Intermediate classes (200 level)
Skills / Tools
- LCST 245 explicitly addresses questions of methodology (specifically in literary and cultural study, but with even broader implications).
- Students receive direct instruction from professors on how to locate and use resources in the discipline.
- Library staff members are invited to initiate students into the arcana of the discipline.

Advanced classes and comps (300 and 400 level)
Skills / Tools
- The senior thesis seminar attempts to walk students through the various steps outlined above.

Departmental Assessment:
None listed.
Geology Department

Overview:
The geology department participated in the Mellon Information Literacy grant, during which they developed a list of skills they expect students to acquire before they begin their comps proposal. While they would like students to acquire information literacy skills at an early stage in their Carleton career, they are most concerned with students having those skills before their senior year. Geology students will develop and practice most information literacy skills in the intermediate and advanced classes rather than introductory courses.

Information Literacy skills and assignments:

Introductory classes (100 level)
Assignments
➢ Specific assignments have been developed for Introductory Environmental Geology.
Skills / Tools
➢ Searching GeoRef and MUSE and assessing the quality of the searches and their results.
➢ Familiarity with the library, including librarians, maps and interlibrary loan procedures.
➢ Know the relationship between science and other areas of knowledge.
➢ Understanding of proper and legal uses of information.

Intermediate classes (200 level)
Assignments
➢ Specific assignments have been developed for Petrology, Geomorphology and Tectonics.
Skills / Tools
➢ Understanding of how information is organized and published in geology.
➢ Use of Web of Science
➢ Use of cited references in articles.
➢ Understand how other libraries are organized.
➢ Assess value of older books and.
➢ Familiar with library print sources, including comps papers and reference material.

Advanced classes and comps (300 and 400 level)
Assignments
➢ EndNote instruction (taught by librarian) as part of the Senior Seminar.
Skills / Tools
➢ Proficiency with using the full range of information sources in the discipline. Including: monographs; periodicals; government documents; maps; field guides; reference material; bibliographic tools; and electronic data.
➢ Ability to search and locate documents and to evaluate the sources they locate.
➢ Ability to frame a research question and determine whether it can be answered.
➢ Knowledge of where information to answer research questions can be found.

Departmental Assessment:
The department conducted a survey of Introductory Geology students in 2002 to assess their information literacy skills. The department has also begun and will continue analyzing the number and types of cited sources in comps papers.
History Department

Overview:
The History department participated in the Mellon Information Literacy grant, during which they developed an outline of skills and goals for students in History. Departmental workshops focused on reviewing courses at all levels, with particular emphasis on 110s, 298, 395, and comps process to explore how information literacy is learned and taught.

Information Literacy skills and assignments:
The division between "basic" and "advanced" does not correspond to specific course levels. All history classes will have instruction in some or all of the basic skills, while students who take more courses and more advanced courses will have more opportunities to learn and hone these skills.

Basic
Skills / Tools
➢ Ability to ask and identify historical questions.
➢ Ability to read primary sources accurately and critically.
➢ Ability to present, orally or in writing, reasoned, documented arguments.
➢ Recognize an argument in a secondary work and distinguish evidence/fact/information from argument.
➢ Ability to assess the authority of primary and secondary sources (print and electronic).
➢ Read a bibliography and find the works listed therein.
➢ Use of footnotes and use of manuals and dictionaries

Assignments
➢ Class discussions of primary and secondary sources.
➢ Reading responses.
➢ Papers and other written assignments.
➢ Library instruction and specific assignments designed with library staff.

Advanced
Skills / Tools
➢ Ability to narrow a broad topic through bibliographic research and reading.
➢ Ability to formulate an original thesis statement.
➢ Recognition of the limitations and possibilities of the available information for a topic.
➢ Planning own work in dialogue with scholarship.
➢ Use of large electronic and text databases.
➢ Thorough bibliographical searching and reading.
➢ Understand comparative methodologies and the contributions of other disciplines to an area of research.

Assignments
➢ Staged research papers
➢ Annotated bibliographies
➢ Individual conferences
➢ Class discussions (especially in History 298, 395, Comps seminar)

The History Department Information Literacy Overview is continued on the next page.
History Department (continued):

**Departmental Assessment:**
The History department created an Information Literacy Questionnaire, a rubric for evaluating comps bibliographies, and a learning preferences matrix. To learn more about student preparedness for comps, students will be surveyed when they declare the major and at the beginning of the comps seminar. Results from the 2003 survey are included in the Mellon final report.
Political Science

Overview:
The political science department puts emphasis on the process of writing research papers as a means to achieving the information literacy goals for their majors. Particular attention is paid to information literacy in American, international relations, and comparative politics courses.

Information Literacy skills and assignments:

Introductory classes (100 level)

Assignments
➢ Students are given case studies and must use LexisNexis to follow up on events that have happened in policy or the geographic area since the case. In addition to reporting on these findings and completing works cited lists, students also briefly evaluate their search strategies.
➢ Students must retrieve their course readings from J-STOR rather than receive them in a course packet.

Skills / Tools
➢ Using the Internet.
➢ Searching article databases.
➢ Articulating the usefulness of different search strategies.
➢ Understanding research strategies.
➢ Awareness of resources in and organization of the library.

Intermediate classes (200 level)

Assignment
➢ Many courses require completion of research papers.
➢ In the constitutional law courses students are given assignments that require the mastery of basic legal research skills.

Skills / Tools
➢ Using the Social Sciences Citation Index (Web of Science) as a tool for conducting literature searches.
➢ Advanced use of article databases, other databases, and the Internet.
➢ Legal research using LexisNexis and print sources.
➢ Awareness of strategies for locating and evaluating legal scholarship.
➢ Knowledge of legal citation conventions.

Advanced classes and comps (300 and 400 level)

Assignments
➢ Courses typically require research papers.

Departmental Assessment:
None listed.
Religion

Overview:

The religion department teaches information literacy in everything they do, from the way they structure their curriculum to their requirements for majors, to the readings they assign, the way they read texts with them, the written and oral assignments they give, the way they present information in lectures, and the way they respond to student questions and comments in class.

Information Literacy Skills and Assignments:
Advanced Classes (300 level):

Assignment

► Junior majors spend one session with a bibliographic librarian in the required methods course, and devote time to research skills in the senior seminars.

Skills/Tools

► In the senior seminars students learn how to cite sources, how to evaluate and integrate different types of sources, and are introduced to the library resources for their topic. During comps advising students are also directed to new sources and guided in their use.

Departmental Assessment

► The new Religion Department Handbook contains guidelines for using research tools, proper citation format for research papers, and other information literacy skills.
4. Summary of Information Literacy findings from Office of Institutional Research
(Compiled by Jackie Lauer-Glebov)

While the focus of our charge was to collect departmental definitions and to see where information literacy was being taught in Carleton’s curriculum, we also examined student survey data currently held by the college to see what it could tell us about Carleton students’ experiences with information literacy. We looked at national data, from the ACE/CIRP Freshman Survey and the College Student Experiences Questionnaire (CSEQ), as well as data collected by the library in their Gould Library First Year Survey.

Quality of effort (QE) scales from the 2001 CSEQ are composite scores comprised of student responses to questions within a given area (in this case, Library Experience). The more frequently students state they have engaged in a behavior, the higher the QE score. These QE scores, then, reflect student engagement in that area. The mean QE score for Library Experiences in 2001 was 2.5 out of 4, the fifth highest mean for the college overall. Not all of the questions that were used to create the QE score are related to information literacy (e.g. used the library as a quiet place to read or study materials, found something interesting while browsing in the library). However, the Library QE score does demonstrate that students are highly engaged in using the library for a variety of academic and non-academic purposes.

The CSEQ asked students to rate the emphasis that Carleton puts on “developing information literacy skills (using computers, other information resources)” from 1 (weak emphasis) to 7 (strong emphasis). In all, 49.7% of students put Carleton’s emphasis in the highest range (6 or 7). This held true across class years, with 50% of freshmen and 48.6% of seniors giving information literacy the highest rankings.

Using the Geology department’s definition of information literacy as a guide, we examined specific information literate behaviors. From the ACE/CIRP Freshman Survey, we know that students entering Carleton with experience using the internet for research or homework “frequently” or “occasionally” has been steadily rising from just under 60% in 1999 to just over 80% in 2003. The CSEQ asks students to state how frequently they’ve (1) “used an index or database to find material on some topic” and (2) “made a judgment about the quality of information obtained from the library, World Wide Web, or other sources.” In the 2001 results, 70.5% of all students reported that they “often” or “very often” used an index to find material and 46.6% stated they “often” or “very” often made a judgment about the quality of information they had obtained. Both of these questions demonstrated a step-wise progression across class year, increasing from freshman year to senior year.

The library’s First Year Survey was designed specifically to determine the level of experience students had with libraries, their confidence in their information literacy skills, and their ability to actually perform certain tasks related to information literacy. In fall 2002, 209 freshmen took the survey. In fall 2003, 274 freshmen took the survey. Some findings from those two years are:
A large number of entering students report never having used an academic library (48% 2002; 64% 2003)

- Virtually all students have either “frequently” or “sometimes” used the library for school-related research (99% 2002; 97.4% 2003)
- The most frequently used research resources during their senior year of high school for both 2002 and 2003 were textbooks and web sites; the least frequently used were print journals and e-journals
- When asked the best way to find a scholarly journal article, students in 2002 most often reported “search the online library catalog while students in 2003 most often reported “search a print index or database”
- In both years, roughly 50% of students could correctly identify a citation for a portion of a book, roughly 70% could correctly identify a citation for a whole book.

- 83% of students in 2002 were “somewhat” or “very” confident in their ability to conduct college-level research while only 74% of students in 2003 were.
- When asked how they would begin to research an unfamiliar topic, the top two choices selected by students in 2002 were (1) search the library catalog, and (2) ask a librarian for advice; in 2003 they were (1) search the web using Google or another search engine, and (2) ask a professor for advice.

From this data we can draw some limited conclusions, namely:

- There is a discrepancy between the “technical” skills our students have (using the web to find information) and the “higher order” skills our students have (evaluating the quality of a source) in regards to information literacy.
- Most students are confident in their ability to use information in their research, but their skills are much lower than they believe.
- For a majority of our incoming students, academic libraries, scholarly journals/e-journals, and searching databases are new ideas.

There are serious limitations to the data we currently have regarding student experiences with information literacy at Carleton. One is that most of our data comes from one source – the CSEQ. While this instrument has proven reliability and validity, it has an uncertain future at Carleton. When deciding which surveys to participate in, the college pursues those which will provide comparative data from our COFHE peers. COFHE, however, has decided to discontinue using the CSEQ and has designed its own survey, the Enrolled Student Survey (ESS). Currently, the library questions on the ESS do not address information literacy skills, though this instrument will most likely go through a revision within the next couple of years.

A second limitation is that data from the ACE/CIRP Freshman Survey, the CSEQ, and even the library’s First Year Survey are primarily self-reported (though a few questions on the First Year Survey are performance based). While self-reports are valuable, they are often erroneous (see results from the 2002 First Year Survey for an example). Combining self-reported data with student performance data would provide a more complete picture.
A summary from First Year Student Focus Group Report offers advice for departments and the college:

The student felt that they had learned a great deal about the research process and about various resources from the research projects that they had completed. However, they said that they felt that the skills needed reinforcement through out their college careers so that they did not have to re-learn skills that they had learned and forgotten several terms ago.

5. Recommendations for Assessment and Future Activities
(Carolyn Sanford and Jackie Lauer-Gleboy)

1. Assist departments to develop their own approach to Information Literacy by applying for an Information Literacy Curricular Grant. This grant could be used to allow time in the department to discuss the place of Information Literacy in their courses and curriculum; to think about what skills majors will need to be prepared for comps; and to think about the place of Information Literacy in preparing a Carleton liberal arts graduate.

2. Focus on discipline specific skills and expertise within the college.

3. Help departments to develop a holistic approach to identifying and incorporating Information Literacy into their courses and curriculum. They may consider using tools such as surveys; grid/matrix approaches; portfolios; adjustments to assignments or the creation of new assignments.

4. Plan an interdisciplinary discussion each term (one is planned for September 9, 2004 with ACM funding).

5. Find ways to support departments already engaged in Information Literacy activities, for example the Mellon departments, with measuring the effects of their Information Literacy initiatives on student learning. This support could also be provided to the non-Mellon departments.

6. Help departments to access and utilize the information we already have from freshman and senior surveys and other studies to contribute to our knowledge of student learning.

7. The college needs to decide where information literacy fits within the overall structure of the college’s learning goals and whether it should be adopted as a college-wide learning outcome.

8. Carleton faculty, students, and academic support staff begin a conversation about improving student research experiences across the four years, focusing on both the research process and methods and experiential research (lab work, empirical studies, original research, creative works).
8. With the end of the Mellon grant that initiated the information literacy movement, continued progress in this area will be dependent upon a faculty member collaborating with the library to provide leadership and direction.
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5. Recommendations for Assessment and Future Activities...........17
I. Introduction
(Jamie Monson and Carolyn Sanford)

a. Review Activities

This review was conducted in response to a charge from the ECC to learn two things about Information Literacy at Carleton: how the college defines Information Literacy within departments; and where in the curriculum students have opportunities to develop their skills in Information Literacy. To this end, our committee carried out the following activities during winter term, 2004:

1. Conducted a survey of departments on campus to learn how they define Information Literacy and how they teach it in their courses;

2. Reviewed the reports of the departments that participated in the Mellon Information Literacy Initiative (English, History, Geology, Economics, Classics);

3. Pulled together the quantitative data that we already have about Information Literacy, from the 2001 CSEQ, the ACE/CIRP Freshman Survey, and the First Year Student Library Survey.

b. Preliminary Conclusions

The review did not yield the number of responses from departments that would have allowed us to put together a comprehensive summary of what is happening at Carleton with Information Literacy. This report is therefore largely constructed from the experiences of those departments that participated in the Mellon Initiative and those few who responded to our survey.

The minimal response to our request for information from departments may be instructive. The committee felt that one of the most positive aspects of the Mellon Initiative was the opportunity it offered to departments to have wide-ranging conversations about Information Literacy. It may be that most non-Mellon departments simply did not have the time to engage in such conversations on their own. For that reason, one of the recommendations of the committee (below) is that curricular grants be made available to departments to have these kinds of conversations.

On the basis of the responses we received, and on the experiences of the Mellon departments, we have come to the following conclusions about Information Literacy generally at Carleton:

i. Information Literacy is fundamentally about student learning.

ii. Departments can benefit greatly from in-depth discussions about Information Literacy where faculty are able to share their course assignments and goals. These
discussions may stimulate more curricular cohesion and coordinated assignments, as well as useful ways of understanding what students are learning within courses and within the department more broadly.

iii. When departments become involved in Information Literacy conversations and assessment, curricular change can take place in a coordinated way. Adjustments to curriculum and to assignments may be subtle or more substantial, depending upon the interest of the department and of individual faculty.

The departments we surveyed were generally satisfied with the definition of Information Literacy developed as part of the Mellon Initiative in coordination with library staff, with some modifications. A summary of definitions is in Section 2. In Section 3, there are brief summaries of what responding departments are already doing with Information Literacy. The final section of this report details our recommendations for future Information Literacy activities and assessment at Carleton.

2. Defining Information Literacy
(Compiled by Matt Semanoff)

A. Definition from the Library Committee

Information literacy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”

- Information Literacy Competency Standards for Higher Education from the Association of College & Research Libraries (ACRL)

In liberal arts colleges, librarians and faculty assist students in developing a sophisticated relationship with information by fostering appropriate expectations for information sources, effective search strategies, critical evaluation of information sources, and respect for the intellectual work of others. Students who are information literate can:

- Ask intelligent and creative questions
- Identify information sources
- Locate and access information sources successfully
- Judge the quality, relationship, and relevancy of information sources to their questions
- Determine the strengths and weaknesses of information sources
- Engage critically with information sources to interpret and integrate divergent points of view
- Use information sources ethically

-MITC First-Year Information Literacy in the Liberal Arts Assessment Proposal Draft written by members of the committee
B. Definitions from Departments

In addition to the departments participating in the Mellon Information Literacy Grant, we received responses from the departments of Art and Art History, Chemistry, Political Science, and Romance Languages and Literatures. With the exception of Humanities, all divisions are represented by these departments. A comparison of the definitions provided by those departments participating in the grant with the non-grant departments reveals a consistent definition of information literacy. It is not entirely surprising that there is such consistency in the definition given the fact that the department chairpeople were given the library's overarching definition as well as examples from some of the departments participating in the grant. Nevertheless, we do not see any glaring disagreements with the definition posed by the library. Moreover, departments across divisions are in agreement concerning critical evaluation of research.

Although the various departments phrased their definitions differently, there was consensus that information literacy involves:

- the ability to pose problems
- the understanding of strategies necessary to answer those problems
- the ability to evaluate the evidence used for argumentation.

The Geology department poses a goal for information literacy which can be revised to express the attitudes of the departments responding to our survey: An information literate student should be able to search and locate documents and know how to evaluate the sources they locate. They should be able to frame a research question, determine whether it can be answered, and where one would get the information to answer it through the literature or original research.

Asking questions appropriate to the discipline appears to be one of the most idiosyncratic aspects of information literacy. Nearly all department responses have remarked on the importance of not only being able to pose good questions, but the ability to determine whether or not the questions can be answered. I can easily imagine a student of Political Science who has experience manipulating census data wanting to pose similar questions in a Classics course or even certain History courses only to be told that the question is impossible to answer. While this example is pretty extreme (i.e. obvious), most of the department responses suggest that the ability to ask sophisticated research questions is something that comes quite late in the curricula.
3. Summary of Skills and Assignments for Individual Departments
(Compiled by Mollie Freier, Charles Priore, Heather Tompkins, and Ann Zawistoski)

Art and Art History Department

Overview:
The Department of Art and Art History has provided a definition for information literacy, which is outlined in the following section.

Information Literacy skills and assignments:

Introductory, Intermediate and Advanced classes
- Ability to formulate and answer questions that pertain to artworks (i.e. painting, sculpture, photography, architecture and visual culture) by combining the skills of formal analysis with the study of primary and secondary textual sources.
- Ability to locate and assess both visual and textual sources in traditional as well as electronic archives
- Familiarity with major journals, reference books and databases as well as with the layout of the library and the use of certain services such as inter-library loan and the reference desk.
- Ability to organize a literature review and bibliography, including a basic awareness of different styles and formats for scholarly writing.
- Familiarity with a variety of theoretical issues within and methodological approaches to the discipline.
- Awareness of guidelines concerning academic integrity and plagiarism
- (Studio Only) Ability to research techniques for safe fabrication of artworks: and to locate and assess pertinent material safety data information.

Departmental Assessment:
None listed.
Chemistry Department

Overview:
The chemistry department has provided an inventory of what is done in individual classes regarding the teaching of information literacy, based on the ECC's definition of information literacy. The department noted that the term "research" can be interpreted in different ways, particularly in the sciences. They are careful to differentiate between library research and laboratory or field research (where new knowledge is produced).

Information Literacy skills and assignments:

Introductory classes (100 level)
  Assignments
  ➢ Short reports on science articles.
  ➢ Papers-based-on web resources.
  ➢ Discussion of reliability of web sources.
  ➢ Papers based on standard textbooks.

Skills / Tools
  ➢ Understanding of current scientific endeavors.
  ➢ Literature citation, particularly of web sources.

Intermediate classes (200 level)
  Assignments
  ➢ Use of secondary and tertiary (textbook website) sources to find chemistry procedures.

Advanced classes and comps (300 and 400 level)
  Assignments
  ➢ Various paper assignments (including comps), requiring use of primary and secondary sources and correct literature citations.
  ➢ Use of secondary sources to find projects to replicate in the lab.
  ➢ Oral presentation of results from a recent chemistry paper.
  ➢ Instruction on SciFinder Scholar and EndNote (taught by librarian).

Skills / Tools
  ➢ Exploration of primary literature and finding cited references.
  ➢ Using government documents to find environmental chemistry regulations.
  ➢ Understanding when books are useful (includes trip to library to look for books)

Additional Activities
  ➢ Chemistry department seminar and journal club: students are invited to read a chemistry paper and discuss with interested students and faculty.
  ➢ Summer Research Program: Students who work on research over the summer take an independent study course and read primary and secondary literature as preparation.

Departmental Assessment:
None listed.
Classics

Overview:
The Classics department participated in the Mellon grant, during which time they created a definition for information literacy in Classics, revised their comps process, and created a skills/tools grid for tracking certain skills throughout their curriculum. The goals for information literacy have focused on ensuring that their comps students are equipped with the skills needed to undertake a substantive research project in their senior year.

Information Literacy skills and assignments:
Introductory classes (100 level)
Skills / Tools
➢ Locating and citing primary and secondary sources.
➢ Using primary sources as evidence.
➢ Using the Oxford Classical-Dictionary
➢ Using specific reference tools (Mythology: Lexicon Iconomgraphicum Mythologiae Classicae; and New Barrington Atlas)
➢ General library organization and search engines
➢ Subject-oriented search tools (Diotima)

Intermediate classes (200 level)
Assignments
➢ Response paper (5-7 pgs) based on close reading of Greek or Latin text.
➢ Reports on scholarly articles.
Skills / Tools
➢ Locating and citing primary and secondary sources.
➢ Using primary sources as evidence.

Advanced classes and comps (300 and 400 level)
Assignments
➢ Research paper (8-10 pgs) based on primary texts and evaluation of secondary literature
➢ Creation of assignments that document the skills required for information literacy.
➢ Reflective essay addressing the inclusion of items in portfolio.
➢ Research paper on a topic that fits within the senior seminar theme.
Skills / Tools
➢ Locating and citing primary and secondary sources
➢ Using secondary and primary sources to situate work in the context of the discipline.

Departmental Assessment:
The Classics department will use a Junior Skills portfolio, Analecta Technica, to assess the information literacy skills of their majors. The portfolio includes a check list of tools and assignments completed inside and outside of class that document students’ ability to use primary sources and evidence and secondary sources to situate their own work in the discipline. Students must also include a reflective essay that discusses where the student had opportunities to practice specific skills and tools and which tools they feel they need more practice.

Economics

Overview:
The economics department’s goals for information literacy are to prepare students for the comps process and to prepare them for independent research in the business world or graduate school. Their working definition of information literacy in the field of economics includes acquiring familiarity with scholarly communication in the field and the abilities to critically locate, interpret, organize, and use sources to answer research questions. The department has created a table of objectives to be met at each level of courses.

**Information Literacy skills and assignments:**
Sample assignments can be found in the final Mellon Report. The department has chosen to place selected assignments designed to meet information literature objectives in the department COLLAB folder.

**Introductory classes (100 level)**
Skills / Tools
› Use of EconLit and JSTOR
› Identification of publicly available data sets
› Organization of a literature review
› Location of summary articles in core economics journals

**Intermediate classes (200 level)**
Skills / Tools
› Identification of seminal works (using the Social Sciences Citation Index)
› Identification of research questions
› Organization of a literature review that leads to a research question
› Determination of whether data exist to answer a research question
› Deeper, critical reading of articles in core economics journals

**Advanced classes and comps (300 and 400 level)**
Skills / Tools
› Sophisticated analysis of data and integration into writing
› Ability to create a testable research question
› Ability to find and organize data that can be used to answer a research question
› Ability to draw from a wide variety of sources of literature and data

**Departmental Assessment:**
The economics department will meet periodically to evaluate how well the majors are meeting the objectives laid out in the table of objectives. Particular attention will be given to how well students are prepared for their comps and how they meet the objectives as they make their way through the comps process. The department will also survey students periodically to compare with baseline surveys.

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**English Department**

**Overview:**
Information literacy in English is grounded in literary texts; ideally, it should combine knowledge of the varied methods of accessing and evaluating primary texts (and, when possible, rare or special editions of the books) with knowledge of the newest technologies involved in accessing on-line resources and evaluating those resources. Students will develop knowledge and skills in literary techniques, literary history, and scholarship and research.

**Information Literacy skills and assignments:**

**Introductory classes (100 level)**

**Assignments**
- Small group work, reading responses, close reading exercises, oral presentations, individual conferences with faculty, and performance in class discussions

**Skills / Tools**
- Formulate and answer literary questions based on formal and thematic readings of literary texts.
- Knowledge of and ability to ask questions about genre, formal, and rhetorical elements.
- Ability to ask and identify thematic questions.
- Ability to present, orally and in writing, reasoned, documented arguments.
- Close reading; and use of manuals, encyclopedias, dictionaries, concordances.
- Knowledge of the British and American literary tradition and some knowledge of literature and literary history outside that tradition.
- Introduction to secondary sources as a means to locate other perspectives, create questions, and support theoretical arguments;
- Recognize an argument in a secondary work and distinguish evidence from argument.
- Knowledge of correct use and forms for citations, bibliographies and footnotes
- Locate available and relevant print and electronic resources.

**Intermediate classes (200 level)**

**Assignments**
- Group work, performance in class discussions, essays that require both close reading and broader understanding, assignments in ENGL 200 (Methods of Interpretation)

**Skills / Tools**
- Recognize different possible interpretative strategies.
- Recognize and understand of the contributions of disparate fields to literary study.
- Understand the complexity of genre as a categorical method;
- Recognize and analyze of changing literary forms
- Deepen knowledge of the literary tradition, understand intertextuality, and develop a comparative understanding of literary history
- Identify and use the range of available library resources.

*The English Department Information Literacy Overview is continued on the next page.*

**English Department (continued)**

- Assess the authority of print and electronic secondary sources and recognize the limitations or possibilities for informational resources.
> Narrow a broad topic through bibliographic research and reading;
> Create and use bibliographies (including annotated); and develop a research project.

**Advanced classes and comps (300 and 400 level)**

**Assignments**
> Group work, performance in class discussions, senior seminar papers and essays in other advanced courses
> Specialized study in advanced courses
> Option for essay or exam for senior integrative exercise

**Skills / Tools**
> Practice and deepen skills and tools learned in intermediate classes (see the skills and tools listed above)

**Departmental Assessment:**
None listed
French Department

Overview:
The French department prepared the following definition of information literacy:

- Recognizing when it is appropriate to look for additional information (i.e., to perform "research").
- Recognizing what methodological approach is likely to yield results.
- Evaluating resources to determine which are the most current & authoritative, and what position they hold within the field (i.e., whether they are considered mainstream, traditional, controversial, highly questionable, etc.).
- Learning to read and interpret information critically and with subtlety.
- Learning how to assemble and present complex information in a coherent way, including adequate documentation.

Information Literacy skills and assignments:

Introductory classes (100 level)
Skills / Tools
- Students receive direct instruction from professors on how to locate and use resources in the discipline
- Library staff members are invited to initiate students into the arcana of the discipline

Intermediate classes (200 level)
Skills / Tools
- LCST 245 explicitly addresses questions of methodology (specifically in literary and cultural study, but with even broader implications).
- Students receive direct instruction from professors on how to locate and use resources in the discipline.
- Library staff members are invited to initiate students into the arcana of the discipline.

Advanced classes and comps (300 and 400 level)
Skills / Tools
- The senior thesis seminar attempts to walk students through the various steps outlined above.

Departmental Assessment:
None listed.
Geology Department

Overview:
The geology department participated in the Mellon Information Literacy grant, during which they developed a list of skills they expect students to acquire before they begin their comps proposal. While they would like students to acquire information literacy skills at an early stage in their Carleton career, they are most concerned with students having those skills before their senior year. Geology students will develop and practice most information literacy skills in the intermediate and advanced classes rather than introductory courses.

Information Literacy skills and assignments:
Introductory classes (100 level)
Assignments
» Specific assignments have been developed for Introductory Environmental Geology.

Skills / Tools
» Searching GeoRef and MUSE and assessing the quality of the searches and their results.
» Familiarity with the library, including librarians, maps and interlibrary loan procedures.
» Know the relationship between science and other areas of knowledge.
» Understanding of proper and legal uses of information.

Intermediate classes (200 level)
Assignments
» Specific assignments have been developed for Petrology, Geomorphology and Tectonics.

Skills / Tools
» Understanding of how information is organized and published in geology.
» Use of Web of Science
» Use of cited references in articles.
» Understand how other libraries are organized.
» Assess value of older books and.
» Familiar with library print sources, including comps papers and reference material.

Advanced classes and comps (300 and 400 level)
Assignments
» EndNote instruction (taught by librarian) as part of the Senior Seminar.

Skills / Tools
» Proficiency with using the full range of information sources in the discipline. Including: monographs; periodicals; government documents; maps; field guides; reference material; bibliographic tools; and electronic data.
» Ability to search and locate documents and to evaluate the sources they locate.
» Ability to frame a research question and determine whether it can be answered.
» Knowledge of where information to answer research questions can be found.

Departmental Assessment:
The department conducted a survey of Introductory Geology students in 2002 to assess their information literacy skills. The department has also begun and will continue analyzing the number and types of cited sources in comps papers.
History Department

Overview:
The History department participated in the Mellon Information Literacy grant, during which they developed an outline of skills and goals for students in History. Departmental workshops focused on reviewing courses at all levels, with particular emphasis on 110s, 298, 395, and comp process to explore how information literacy is learned and taught.

Information Literacy skills and assignments:
The division between "basic" and "advanced" does not correspond to specific course levels. All history classes will have instruction in some or all of the basic skills, while students who take more courses and more advanced courses will have more opportunities to learn and hone these skills.

Basic

Skills/Tools
- Ability to ask and identify historical questions.
- Ability to read primary sources accurately and critically.
- Ability to present, orally or in writing, reasoned, documented arguments.
- Recognize an argument in a secondary work and distinguish evidence/fact/information from argument.
- Ability to assess the authority of primary and secondary sources (print and electronic).
- Read a bibliography and find the works listed therein.
- Use of footnotes and use of manuals and dictionaries

Assignments
- Class discussions of primary and secondary sources.
- Reading responses.
- Papers and other written assignments.
- Library instruction and specific assignments designed with library staff.

Advanced

Skills/Tools
- Ability to narrow a broad topic through bibliographic research and reading.
- Ability to formulate an original thesis statement.
- Recognition of the limitations and possibilities of the available information for a topic.
- Planning own work in dialogue with scholarship.
- Use of large electronic and text databases.
- Thorough bibliographical searching and reading.
- Understand comparative methodologies and the contributions of other disciplines to an area of research.

Assignments
- Staged research papers
- Annotated bibliographies
- Individual conferences
- Class discussions (especially in History 298, 395, Comps seminar)

The History Department Information Literacy Overview is continued on the next page.
History Department (continued)

**Departmental Assessment:**
The History department created an Information Literacy Questionnaire, a rubric for evaluating comps bibliographies, and a learning preferences matrix. To learn more about student preparedness for comps, students will be surveyed when they declare the major and at the beginning of the comps seminar. Results from the 2003 survey are included in the Mellon final report.
Political Science

Overview:
The political science department puts emphasis on the process of writing research papers as a means to achieving the information literacy goals for their majors. Particular attention is paid to information literacy in American, international relations, and comparative politics courses.

Information Literacy skills and assignments:
Introductory classes (100 level)
Assignments
➢ Students are given case studies and must use LexisNexis to follow up on events that have happened in policy or the geographic area since the case. In addition to reporting on these findings and completing works cited lists, students also briefly evaluate their search strategies.
➢ Students must retrieve their course readings from J-STOR rather than receive them in a course packet.
Skills / Tools
➢ Using the Internet.
➢ Searching article databases.
➢ Articulating the usefulness of different search strategies.
➢ Understanding research strategies.
➢ Awareness of resources in and organization of the library.

Intermediate classes (200 level)
Assignment
➢ Many courses require completion of research papers.
➢ In the constitutional law courses students are given assignments that require the mastery of basic legal research skills.
Skills / Tools
➢ Using the Social Sciences Citation Index (Web of Science) as a tool for conducting literature searches.
➢ Advanced use of article databases, other databases, and the Internet.
➢ Legal research using LexisNexis and print sources.
➢ Awareness of strategies for locating and evaluating legal scholarship.
➢ Knowledge of legal citation conventions.

Advanced classes and comps (300 and 400 level)
Assignments
➢ Courses typically require research papers.

Departmental Assessment:
None listed.
Religion

Overview:

The religion department teaches information literacy in everything they do, from the way they structure their curriculum to their requirements for majors, to the readings they assign, the way they read texts with them, the written and oral assignments they give, the way they present information in lectures, and the way they respond to student questions and comments in class.

Information Literacy Skills and Assignments:
Advanced Classes (300 level):

Assignment
► Junior majors spend one session with a bibliographic librarian in the required methods course, and devote time to research skills in the senior seminars

Skills/Tools
► In the senior seminars students learn how to cite sources, how to evaluate and integrate different types of sources, and are introduced to the library resources for their topic. During comps advising students are also directed to new sources and guided in their use.

Departmental Assessment

► The new Religion Department Handbook contains guidelines for using research tools, proper citation format for research papers, and other information literacy skills.