Teaching and Learning Subcommittee:

Report to Undergraduate Curriculum Committee in re University-Wide Information Literacy Pilot Project, Spring 2001

Summary of Information Literacy Pilot Program

This summary includes an overview of the courses selected for the Spring Semester 2001 Pilot Program to infuse Information Literacy into the first-year student curricula at Philadelphia University. The pilot program took a two-pronged approach, addressing students within their majors and also from within two general education courses issuing from the College Studies Program (the School of General Studies). Within each school, pilot courses were selected based mainly on the criterion that these were common courses within departmental majors, through which each student would move. At the first-year level, this was possible; at subsequent levels, this will become more difficult. Coursework within the majors diverges rapidly within schools, as exemplified by the various design majors, the two Architecture programs (5yr. and 4yr. programs) and the various programs offered by the School of Textiles and Material Technology.

Background of Pilot Courses

The courses selected as pilots for the initiative were:

School	Course Name	Course Number
School of Architecture & Design	Design II (foundation studio course for architecture and interior design)	A 112
School of Business	Introduction to Information Systems	B 122
School of General Studies	Writing Seminar I American Transitions (History Level I)	L 111 & L 173
School of Science & Health	Chemistry I for Science Majors	L 321
School of Textiles & Materials Technology	Survey of Textile Industry	T 101

Background – School of Architecture & Design
A 112 is a course required for the Bachelor of Architecture, Architectural Studies, and Interior Design degrees. An existing assignment was used to promote information literacy skills.

Objectives:
- Introduce students to the physical library building, and the locations of different library materials
- Introduce students to the online catalog
- Teach students the difference between a **Keyword** and a **Subject** search
- Demonstrate effective use of the online catalog to locate books and periodicals owned by Gutman Library

Background – School of Business
B122 is the Introduction to Information System course, and is required for all freshmen. While there is not currently an assignment that lends itself to achieving information literacy goals, this is SBA's common course for freshmen. Without an existing assignment, the librarian and instructor devised a plan and a new assignment.

Objectives:
- Introduce students to the online catalog.
- Demonstrate effective use of the online catalog; identify relevant subject headings
- Perform a simple keyword search in ProQuest's ABI Global database
- Understand basic search interface of a few different search engines
- Critically evaluate web sites

The librarian developed and distributed an out-of-class assignment worksheet that would give the students an opportunity to put into practice what they learned in the class. The students were instructed to turn in the worksheet a week later, and to then take the test before the next class session. In addition, the students in the 1:00 pm section were going to be asked to take the test, without ever receiving any instruction or worksheets from Steven Bell. This would provide an informal control and experimental group situation.

Background – School of General Studies
Two classes in SGS were identified for the pilot: L111, Writing Seminar I, and L173, Historical Understanding: American Transitions. The same instructor—Julie Kimmel—taught both of these pilot classes.

The assignment for L111 entailed finding book reviews for a course text, *Colored People*. One of the reviews was to be found using a commercial online database (Lexis Nexis or Wilson Web's Readers Guide Full-Text), the other was to be found using an internet search engine.

Objectives:
- Learn about two useful on-line databases
- Use these databases to retrieve a book review relevant to their work in class
- Understand some important differences between on-line databases available through the library and general internet search tools like Yahoo and Google.

The assignment for L172 focused on finding and evaluating a web page concerning the Vietnam War. Via the assignment, students also were exposed to a commercial, online database for American history.

Objectives:
- Learn about the library's database on American history, *American Journey*.
- Locate a useful web page using the menu of links on the instructor's page or a major internet search engine like Google.
- Evaluate the reliability and usefulness of a web page.

Background – School of Science and Health

The course identified for the pilot was L321, General Chemistry I. L321 reaches across the disciplinary concentrations offered by SSH. In the future, a core course for Chemistry majors, offered in the spring semester, will be incorporated into the Information Literacy initiative. Students were given a short (2 page minimum) research assignment. The theme of the paper was "Chemistry and Real World Issues," and students could—with instructor approval-- research and write about a topic of their choosing. Part of the grading criteria was the students' abilities to use library resources.

Objectives:
- Promote broad-based thought about potential sources of information, regardless of format
- Encourage independent exploration of a chemistry-related topic
- Employ critical thinking skills, as students present the opposing viewpoints that might surround their particular research topic
- Use information ethically, via proper citation of sources

Background – School of Textiles & Materials Technology
Objectives:
- To ensure that students know where the Library is
- To ensure that students know where the current periodicals are
- To ensure that students become familiar with key publications in the field of textiles
- To ensure that students begin to think of textiles in broader contexts than only that of apparel
- To ensure that students know that the Library has resources for them that are important to their studies

Building on these stated outcomes and the focus of the assignment (use of current periodicals in print) librarians added the aspects of catalog searching, using serials as an example. The ability to use the online catalog effectively is an overall goal for first-year students. Tied to catalog use are location and access issues, which were incorporated into a tour of the library.

The tutorial used for the T101 presentations is accessible from the "Tutorials" page of the Gutman Library website. http://www.philau.edu/library/tutorials

Summary of Findings

Findings – School of A & D

Clear articulation on the part of A&D as to the goals of the assignment might have resulted in alteration of the execution of the library sessions, to better reach the stated objectives (researching a particular house). There is no problem with the content or focus of the assignment. There exists, however, a lack of clarity and articulation of specific outcomes that are to result from the library session in regard to the assignment.

Logistical difficulties with the existing execution need to be addressed, particularly with using the library reference area as an instruction area. The library reference area is poorly suited to this purpose with a group of larger than 7 or 8 students. Another logistical difficulty is the limit of 5 simultaneous users to the online version of the Avery Index. This difficulty has the potential to be overcome, as additional passwords may be obtainable, for limited classroom use.

Overall, changes to the execution of the library session need to be made. A different approach to the design of the library session might include web-based or paper based exercises that are to be completed before the actual session, thus maximizing the benefit of the time the students spend with the librarian. Sherri Litwiller--liaison to A&D—has already placed much instructional material for A&D on her website. Incorporating these materials into A&D classes can easily be done by A&D faculty. Increased collaboration of A112 faculty with Sherri will result in more effective sessions in the future.

Findings – School of Business

Collaboration between Steven Bell and John Sanford was better than might have been expected, as Prof. Sanford was somewhat skeptical about the information literacy objectives. However, he became more involved in the effort to provide information literacy instruction to his students as the semester progressed. According to plan, the students in the 9:00 am section of B122 took the pre-test, heard from Steven Bell, completed the worksheet, and took the post-test. Students in the 1:00 pm section of the course were given the worksheet, but had no class presentation from Steven. All the students took the test. The problem is that the pilot was plagued by poor student attendance and participation in the online testing. While a fair number in the 9:00 am section took the pre-test (and fared poorly), and a fair number completed the worksheet, the number that actually took the pre-test, completed the worksheet, and took the post-test was very low - perhaps less than five. With so few it is difficult to ascertain whether or not the in-class instruction had any real impact. Again, since the library instruction element of the course was only very loosely coupled with the project, it may have been that students felt they didn't need to learn the information literacy skills to pass the course.

We perhaps can learn from this and try to modify the course project so it incorporates some activities that will require better library research skills, or at least try to assure students will attend the instruction session and take the tests - so we can measure outcomes. Steven recommends that we try to expand the training to additional sections of the course.

Findings – School of General Studies
L111

Goal #1 was met with success, as many students who were not previously aware of the online databases available to them via the library were made aware of this fact. A few students refused to use the designated online databases, although instructions on how to access them were provided. Most students also successfully met Goal #2. In terms of Goal #3, a clearly articulated understanding of the differences between internet search engines and commercially licensed periodical databases was not successfully achieved by the students in the pilot. The pilot revealed that students would have benefited from a hands-on session using the online databases used to find the book reviews. In the context of a group hands-on session, class discussion about the characteristics and composition of periodical databases and their differences from search engines could have occurred, fostering a deeper understanding of these issues in an active learning mode.

L172

Overall, Goal #1 was met with success. There were "tool" related issues relating to the navigation of the American Journey database, which might have been addressed via a paragraph or two of documentation, or by students availing themselves of the database's "Help" feature. In general, Goal #2 (basically a "location" issue) was met with success by most students. As in the L111 experience however, Goal #3-- a critical thinking issue--was not met successfully. Students did not seem to understand the importance and need for website evaluation. Although guidance was provided in terms of the evaluation criteria to apply to the websites, students did not evaluate the websites effectively. In fact, based on the results of the exercise, it was clear that almost half students partially or completely ignored these criteria. More direct attention to and guidance on the topic of website evaluation might help students to better understand and see the necessity of website evaluation, and the general need for critical thinking when encountering information in any format.

Findings - School of Science and Health

Jeff Ashley has reported that, according to Dr. Bhat, the students' self-evaluation of their information finding skills and knowledge of the library contrasted sharply with their actual levels of proficiency. Therefore, this implies that the research papers, although brief, and on topics of the students' own choosing, were less than satisfactory. Any alteration to the wording of the assignment to make it clear to the students that one of the two resources consulted must issue from the library might help the outcome and quality of student research. Perhaps using language in the assignment that clearly states that students are to use specific, predetermined library-based databases, in addition to books or journals could help next time. Left to their own devices, students will probably avoid the library, especially if they have no awareness of the resources available to them there. A brief demonstration in class by a librarian, perhaps a week after the assignment is actually distributed, could help. Again, students have varying degrees of familiarity and ability with library-based resources, even in the second semester of the first year.

Discussions are currently underway to shape assignments for the first-year, fall and spring semester chemistry students. Existing assignments may be reworded very slightly, to better focus on library-based resources that can be successfully used by students at this basic level, when familiarity with the subject of chemistry is still not too deep. A clear conception of what the L321 instructors would like the outcomes of the assignment to be, from an information literacy standpoint, will be helping to shape the wording of the assignment. Deciding on desired outcomes will also determine the level and depth of support needed from librarians, in terms of helping the instructors to help the students to achieve these outcomes. C112, or General

Chemistry II, holds promise as a potential class for incorporating information literacy components into existing assignments. C112 is typically offered in the spring semester. The same type of planning and examination of the assignment and its potential goals and outcomes will probably be applied to C112, along with L321. Sophomore (and higher) level courses to target for pilots in SSH is still under discussion. As in the other schools, the concentrations diverge rapidly, and pilots need to be identified on a major-by-major basis.

Findings – School of Textiles
Since the pilot course occurred during the Spring semester, not all students in the T101 class were freshmen. Some were (2nd & 3rd year) fashion merchandising students (for whom T101 is a first-year requirement), but were not STMT students. Although there was not 100% turnout for the sessions, making attendance a requirement and part of the mid-semester grade undoubtedly improved the turnout. Again, among second semester freshmen, there is a variety of experience and familiarity with library resources that is dependent upon the experiences and coursework of the first (fall) semester.

In an assessment of the instruction itself and of the instructors (librarians), nineteen freshmen students were surveyed. Salient suggestions included that physical handouts should be provided, that there should be sample topics and time to practice, and that the session should not be mandatory. Overall, students favorably rated the pace of the session and the level and organization of the instruction. In other comments, there were opposing opinions on the usefulness of the information presented. Certain information some students found to be the most useful thing they learned at the session was judged by other students to be the least useful thing presented.

General Recommendations

To gain the most benefit from the classes targeted for Information Literacy, the following recommendations are proposed for improvement of existing and future pilot courses:

- Assignments that are constructed in a thoughtful manner, with attention to logistics and available resources.
- An assignment that is not concocted as an "add-in" but that is directly relevant to the content of the course material.
- Pre and post-testing that does not include student self-evaluation is recommended for all future pilot courses. The design of assessment instruments should be the responsibility of the pilot instructors from each school, and their appropriate library liaison. Concrete and objectively measurable outcomes will be defined and assessed.

Additional General Recommendations include the following:

Commitment of Pilot Study Faculty
It is recommended that faculty who are teaching courses targeted for pilot studies meet and work with their appropriate library liaison for the purposes of assignment design, and to learn about available library-based and other resources that may influence assignment design. The building of a collaborative attitude and partnership with the University librarians will greatly enhance the outcomes sought by this initiative.

Collaboration with Librarians in Assignment Design
Through collaborative efforts between librarians and faculty, appropriate and effective assignments can be designed. Librarians may be able to provide insight into effective wording of assignments, to avoid confusion on the part of the students, and also gain insight into the collection development needs faculty assignments necessitate. Faculty can gain better insight into the goals of the information literacy initiative via their collaboration with librarians on assignment design. Additional information on effective assignment design can be seen at:

- Steven Bell: Workshop on Designing Effective Library Assignments
  http://staff.philau.edu/bells/libassign/
- Bowling Green State University
  http://www.bgsu.edu/colleges/library/infosrv/lue/effectiveassignments.html
- Colorado State University
  http://manta.library.colostate.edu/howto/instr.html

Faculty Development
We recommend that a Faculty Development Program be designed, funded and implemented. This program would include development for both full time and adjunct faculty. At this point in time, faculty development is integral to enabling the initiative to move forward with success.

Future Actions

Targeting Higher-Order Skills
Much discussion and action concerning this initiative has focused on low-level information literacy skills, such as location and access, and tool use. Mastery of the tools used to store, access and retrieve information encompass a disproportionate amount of time. To move towards higher-order skills (evaluation and appropriate application of information retrieved) is the wish of some SGS faculty.

Assessment
Discussion amongst faculty within the various Schools to devise acceptable assessment methods and instruments will command more attention in future semesters. At present, and not just on this campus, there are two points of view: proponents of quantitative assessment and those that suggest only qualitative assessment. Just as information literacy itself is easier to define within a particular institutional context, so is assessment.
Depending on the identified learning objectives of targeted courses, one or the other type of assessment will be more appropriate. On a campus wide scale, quantitative assessments could take the form of pre and post testing of students at various designated points in the undergraduate years: incoming freshmen, and at the completion of each undergraduate year (Freshman, Sophomore, Junior, Senior). Qualitative assessments may lend themselves to the specific, narrow outcomes focused upon by instructors and their various discipline-based assignments. Reviewing student bibliographies to judge the scope, type and quality of resources used by the students for their projects, is one qualitative assessment measure. Designing rubrics to help determine how the well the students meet the information needs raised by the assignment, and how well the research question is answered, could form the basis for another type of qualitative assessment.

Faculty Development
The purpose of the Faculty Development Program would be to train faculty to provide hands-on instruction to students, in the use of the Gutman online catalog, online fee-based databases, and in using the internet for research. Faculty-delivered instruction of this type would lighten the instruction load on librarians, and would most likely enjoy a better reception from the students. Another goal of the Program would be to help faculty alter existing assignments to more overtly fulfill university information literacy goals.

Therefore:
- Faculty will need to develop greater / ongoing familiarity with library resources appropriate to their disciplines.
- Some faculty may need to alter existing assignments to provide increased direction to students in terms of the resources to be used.
- Faculty need a neutral and comfortable venue in which to share with each other the active learning techniques, classroom activities, and class assignments that have been successful in promoting information literacy in their students, within their own particular disciplines.

Workshops addressing these outcomes, and directed to faculty according to discipline, will need to be devised. Such workshops could be presented using campus computer lab and presentation room facilities.