



**INTEGRATING INFORMATION LITERACY INTO
THE ROWAN UNIVERSITY CURRICULUM**

Rowan University Information Literacy Task Force

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EXECUTIVE SUMMARY	1
INTRODUCTION.....	2
DEFINITION OF INFORMATION LITERACY	2
CHARGES OF THE INFORMATION LITERACY TASK FORCE.....	2
OVERVIEW OF RECOMMENDATIONS	4
FOUNDATION	4
ADVANCED COMPETENCY	4
TRANSFER STUDENTS.....	5
GRADUATE STUDENTS	5
CAMPBELL LIBRARY RESOURCES.....	5
IMPLEMENTATION PLAN.....	7
CONSULTATIONS WITH THE UNIVERSITY	7
SPECIFIC STEPS.....	7
RATIONALE FOR RECOMMENDATIONS.....	12
ANALYSIS OF OTHER OPTIONS	12
CONCLUSIONS.....	13
REFERENCES.....	14
APPENDICES.....	15
A. Complete Pamphlet on Information Literacy Competency Standards for Higher Education Including Standards and Performance Indicators	
B. Information Literacy Programs at Selected Universities: Contrasts and Comparisons with Rowan University’s Program	
C. Assessing Information Literacy at Rowan University: Faculty Teaching Gen Ed and WI Courses	
D. Matrix of Findings of Initial Assessment of Information Literacy Instruction in Composition Courses	
E. Assessing Information Literacy at Rowan University: Graduate Students	
F. Timeline of Implementation Steps	
G. Faculty Need Analysis for the Department of Composition and Rhetoric	

EXECUTIVE SUMMARY

This report details the recommendations of the Information Literacy Task Force for integrating information literacy instruction and practice throughout the Rowan University curriculum. These recommendations are based on an investigation of comparable institutions, an assessment of current instruction at Rowan, and comparisons with the competency standards established by the Association of College and Research Libraries and the criteria set forth in *Characteristics of Excellence in Higher Education: Standards for Accreditation*. Because Campbell Library plays a primary role in information literacy instruction, **substantial expansion of the library's staff and resources** is recommended to provide state-of-the-art information resources to students and to enhance collaboration between faculty and library staff. Along with the Library, College Composition II is the most appropriate site for providing students with a strong foundation in information literacy. We recommend **expanding College Composition II to a four-credit course**, allowing for an additional credit hour each week to be devoted to supervised "hands-on" work with researched material, including using print sources and electronic databases in the library; reading, evaluating, and processing sources; and composing reports and presentations. We also recommend the **creation of College Composition II sections linked to major courses** and team-taught by faculty from the major department and from Composition and Rhetoric, modeled on the integrated writing and engineering course already in place. Further, advanced instruction and practice in information literacy is essential. We recommend that all academic programs develop and implement objectives for **discipline-specific information literacy instruction and practice in upper-division courses**. Although new courses may be proposed, academic programs should, where possible, intensify existing courses by explicitly focusing on learning outcomes defined by the competency standards. Finally, because the majority of transfer students take composition courses at their first school, we need to ensure that they receive equivalent instruction and practice. We propose to accommodate these students through, first, the development of a **supporting WebCT bridge course**, which they will take in conjunction with a designated information literacy course in their academic program. Second, we recommend the development of a **Rowan-based regional information literacy consortium**, to be funded by a large-scale external grant program such as FIPSE. The consortium will provide a variety of forms of support and outreach to the major transfer institutions to promote the development of a curriculum comparable to what will be offered to students fulfilling their composition requirement at Rowan. In addition to the recommendations and their underlying rationale, the report presents a **timeline and specific implementation steps**, including consultation with stakeholders, determination of staff and resource needs, and development of assessment methods.

INTRODUCTION

Definition of Information Literacy

The American Library Association (ALA) defines information literacy as the capacity to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” According to the information literacy competency standards developed by the ALA and the Association of College and Research Libraries (ACRL), the information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one’s own knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issue surrounding the use of information, and access and use information ethically and legally

For the six standards, 22 performance indicators have been identified. For each indicator, several specific outcomes are described for use in assessing student mastery. The complete pamphlet from the ACRL’s *Information Literacy Competency Standards for Education*, is available in Appendix A.

Charges of the Information Literacy Task Force

In *Characteristics of Excellence in Higher Education: Standards for Accreditation*, the document in which the Middle States Commission on Higher Education explains the criteria for institutional evaluation, a substantial portion of the discussion of assessing Educational Offerings is devoted to information literacy. The Middle States Commission clearly sees information literacy as a comprehensive initiative involving all members of the university community, and expects to see evidence of quality academic programs that utilize appropriate technology, state-of-the-art information resources, and innovative pedagogies throughout the curriculum.

In response to this call for a focus on information literacy, Provost Helen Giles-Gee formed the Information Literacy Task Force in October 2001 and charged its members to accomplish the following:

1. Identify recognized standards of information literacy.
2. Determine the current status of Rowan University with regard to information literacy using models from peer institutions for comparison.
3. Consider general education program applications and other opportunities to integrate information literacy throughout the curriculum.

After adopting the standards and performance indicators delineated by the ALA and ACRL, the Task Force divided into subcommittees. To achieve the second charge of the Task Force, the Research subcommittee obtained descriptions of information literacy programs or curricula at a variety of higher education institutions. We investigated

methods of delivering information literacy instruction at the following institutions: SUNY-Albany, Rutgers University, University of Scranton, James Madison University, and the University of Texas system. Common characteristics throughout the programs include: information literacy instruction is *required*; it reaches most students, usually at the freshman level; technology is a key component; and librarians and faculty are working together toward common goals. Freshman seminars or composition classes seem to be the most common means of reaching the greatest number of students early in their academic careers. Rutgers and the University of Scranton make use of their Freshman Seminars to introduce students to information literacy. James Madison has a required online course embedded in the general education program, while UT uses their online tutorial (TILT) as a supplement to more in-depth course related instruction. UT allows any library to import the TILT program and customize it for local use. SUNY-Albany has expanded beyond the concept of introductory information literacy instruction to more fully integrate it into coursework. To meet General Education requirements, approved courses introduce students to various ways in which information is organized and structured and to the process of finding, using, producing, and distributing information in a variety of formats. In addition to designated information literacy courses, the SUNY Albany Libraries offer a one credit, quarter-long course; general and course-related instructional sessions; online tutorials; and tours and printed guides. More detailed discussions of these findings are included in Appendix B.

To address the third charge, the Survey subcommittee designed a phone survey to assess the ways in which faculty are meeting information literacy objectives with their current instruction and assignments. Faculty teaching undergraduate general education (GE) and writing intensive (WI) courses were contacted by the Task Force. According to the survey responses, a favorable 51% of the GE courses and 94% of the WI courses contain embedded research experiences. Deeper analysis of these activities, however, suggested that only 43% of courses evaluated that contained a research experience (27% of the total courses) contain all components considered important to information literacy. Only seven courses contained all components considered important to information literacy and substantial projects (which we defined as those of at least five pages in length and requiring five or more citations). The phone survey methodology and results are discussed in Appendix C.

In addition to the phone survey of GE and WI courses, a comprehensive chart of information literacy performance indicators, based on the ACRL standards, was developed by the Matrix subcommittee. The matrix was used to assess existing information literacy instruction in College Composition I, College Composition II, and a special version of College Composition II for engineering students. The results of this analysis are presented in Appendix D.

Based on these preliminary studies, the Task Force developed the recommendations and implementation plan that are the focus of the rest of this report. Special consideration is also given to two additional areas of concern that came to our attention: transfer students and graduate students.

OVERVIEW OF RECOMMENDATIONS

Foundation: College Composition II

We have identified College Composition II as the most appropriate site for providing students with a strong foundation in information literacy. As *Characteristics of Excellence* notes, general education requirements, which include composition courses, fulfill the important function of “assuring that, upon degree completion, students are proficient in oral and written communication, scientific and quantitative reasoning, technological capabilities appropriate to the discipline, and information literacy, which includes critical analysis and reasoning.” As the results of the assessment using the matrix of performance indicators shows (Appendix D), College Composition II currently introduces many information literacy skills. However, due to the many other needs of students at this level, information literacy competency is not being consistently achieved at the level the ACRL standards dictate. We recommend enhancing College Composition II by increasing (1) instructional and technological resources, (2) use of and collaboration with the library, and (3) contact time with students. The overall goal is to promote rigorous exposure to and experience with contemporary research methods and practices, and to ensure access to needed assistance from faculty and library staff. To achieve these initiatives, we recommend that College Composition II be expanded to a 4-credit course. The expansion from three contact hours to four would allow for a full credit hour each week to be devoted to “hands-on” work with researched material, including finding print sources in the library; using electronic databases; reading, evaluating, and processing sources; and composing various kinds of reports and presentations. As an additional option, we also recommend the creation of College Composition II courses that are linked to content courses, with three contact hours for each component (and thus referred to hereafter as the 6-credit College Composition II). These team-taught, discipline-specific courses, modeled on the successful engineering-linked College Composition II, would provide students with a relevant context for their research and the potential for real-world projects and associated research and writing assignments. Both options will involve extensive collaboration with Campbell Library staff.

Advanced Competency: Discipline-Specific Instruction and Practice

Characteristics of Excellence states that an accredited institution is characterized by “programs that promote student use of information and learning resources.” Recognizing that information literacy is not achieved through just one course, and that advanced information literacy requires discipline-specific knowledge, we recommend that objectives and criteria for advanced information literacy be developed (or clearly identified if already in use) by each of the academic programs. Particular courses will be developed or identified for a research and writing focus that will explicitly build on the skills acquired in College Composition II. The results of our phone survey indicated that students are gaining some practice with discipline-specific research (Appendix C), but that more specific standards and practices should be implemented to ensure consistency and quality.

Transfer Students

Characteristics of Excellence suggests that institutional reviews of educational offerings should include attention to transfer trends and patterns and, specifically, to “articulation agreements and analysis of their impact and effectiveness” and “the impact of transfer agreements or transfer acceptance mandates on the coherence and integrity of the institution’s degree programs.” This issue is extremely important in terms of composition courses, and hence information literacy. Transfer students make up approximately 58% of the total student body at Rowan. Because the majority of transfer students take their composition courses at their first school, and because information literacy competency develops primarily in composition courses, it is vital that we ensure that incoming transfer students are receiving equivalent instruction and practice. We recommend that the needs of transfer students be met in the following ways:

1. *Regional Informal Literacy Consortium.* We propose the development of a Rowan-based regional information literacy consortium. The consortium would provide a variety of forms of support to these major transfer institutions to promote the development of an information literacy curriculum comparable to what will be offered to students fulfilling their composition requirement at Rowan. Because about 60% of our transfer students come from the six South Jersey county colleges—Camden, Gloucester, Cumberland, Burlington, Cape-Atlantic, and Salem—achieving a measure of consistency across the region and therefore within the Rowan transfer student population is quite feasible. We also envision extending consortium outreach to area high schools, thus enabling them to better prepare their students for college. *Characteristics of Excellence in Higher Education* provides criteria for the oversight of instruction at alternative sites, which could be applied to the creation and assessment of consortium initiatives.

2. *Supplemental WebCT bridge course.* Transfer students from institutions not within the consortium and/or institutions with no formalized information literacy component (and those who enter Rowan prior to the establishment of the consortium) who are accepted with a 3-credit College Composition II equivalent will be required to sign up for a one-credit WebCT bridge course in information literacy, to be taken in conjunction with an upper-division course in their major that has been designated by the academic program as an information-literacy based course. The WebCT bridge course will include a specified number of library orientation sessions. These students will be identified by the academic programs and provided with extra support in their upper division courses where needed.

Graduate Students

Information literacy at the graduate level is an important concern. Although conclusive recommendations are beyond the scope of this report, a preliminary assessment of information literacy instruction and practice at Rowan was undertaken, and the results are discussed in Appendix E.

Campbell Library Resources and Collaboration with Faculty

According to *Characteristics of Excellence*, an accredited institution is characterized by “learning resources, facilities, instructional equipment, library services, and professional

library staff support adequate to support the institution's educational programs.” Identifying elements that document successful information literacy programs, *Characteristics of Excellence* lists “access to reference tools to ascertain where relevant materials exist and are located” and “trained instructional and reference staff, or other support services, available on-site or via remote access, to help students and teaching staff locate and evaluate information tools and resources.”

We recommend that the Provost support a commitment to funding collections and resources necessary to support the teaching and learning of information literacy skills. For example, Campbell Library does not subscribe to Web of Science, a unique citation database that defines the scientific literature. Nor does the library subscribe to FirstSearch, which provides access to WorldCat, the most comprehensive online catalog in existence containing 45 million bibliographic records from its 40,000 participating libraries. Another necessity is the ACM Digital Library. While Campbell Library has an impressive array of databases, these basic tools, which are a mere sampling of faculty needs, are missing because of the high subscription costs. In addition to collection enhancement, faculty development, technological support, and additional librarians are also needed to produce a first rate program.

IMPLEMENTATION PLAN

Consultations with the University Community

In order to maximize information flow and encourage feedback, the first step of the implementation plan is to consult with all stakeholders concerning the recommendations made by the Information Literacy Task Force. Table 1 shows the stakeholders and a timeline, and suggests, in each case, a person to take the lead in making arrangements to meet with the group involved. The designated individual(s) should submit a summary report of the meeting(s) to Karlton Hughes.

Table 1. Timeline and Responsibility for Consultations with the University Community.

Time Period	Stakeholder	Responsibility
November 2002	Department of Composition and Rhetoric	Roberta Harvey
December 2002	Provost	Information Literacy Task Force
	Academic Affairs Council	Provost
	Chairs Council (or if not formed, at chairs meetings of each College)	Elected Head of Chairs Council or College Deans
January 2003	Senate Executive Committee	Cindy Vitto
	AFT Executive Committee	Cindy Vitto
	Student Services (in particular, consultation with the Registrar)	Cindy Vitto
	General Education Task Force	Jay Harper
	SGA	Cindy Vitto and Karen Siefring (Chair of Student Relations Committee)
	University Community (at least two open forums)	Karlton Hughes
February 2003	Provost (report on consultations)	Information Literacy Task Force
	Cabinet (final version of recommendations)	Provost

Specific Steps

Below are listed the major steps that we have identified as necessary for the implementation of our recommendations. Although the steps are numbered and are to a certain extent prioritized, we believe that most of these steps must be undertaken concurrently and that none are optional or expendable if the quality of learning is to be optimum. A chart showing the multi-year timeline for achieving this implementation plan is shown in Appendix F.

1. Proposals for pilot and permanent versions of expanded and linked College Composition II courses. We recommend that the Department of Composition and Rhetoric develop proposals for pilot versions of the 4-credit College Composition II and, with the relevant departments, the 6-credit College Composition II linked to a content course. We recommend that the faculty who team-teach the 6-credit courses each be compensated for 4 credit hours to accommodate increased time commitments necessary

for collaboration and the development of course materials. The Rowan Seminar Advisory Board, which has done a great deal of work on team-teaching in connection with Rowan Seminar courses, may be able to offer guidance on handling compensation and other issues. These pilot versions will permit faculty and departments to conduct preliminary assessments and to adjust the course structure and content as needed before the submission of proposals for permanent versions. Later in the implementation process, when most of the other steps have been accomplished, the proposals for permanent versions of the two College Composition II courses should be completed.

2. *Development of advanced information literacy instruction.* We recommend that all academic departments create or outline existing models within their programs for introducing and developing discipline-specific information literacy. Specifically, academic programs need to develop discipline-specific objectives for advanced information literacy instruction in upper-division courses and identify appropriate courses to emphasize information literacy. New courses may be proposed, but may not be necessary. Rather, we recommend that academic programs intensify existing information literacy instruction and practice by explicitly focusing on desired learning outcomes. We recommend that departments be assisted in this process through some form of guidance and facilitation, such as workshops. The Information Literacy Oversight Committee (see 8. *Formation of oversight committee*) and the department chairs should develop the appropriate methods. This step should also include an assessment of library and other resources available and required to achieve excellence (see 3. *Campbell Library Resources*).

3. *Campbell Library resources.* We recommend that Campbell Library assess the adequacy of its resources in terms of meeting information literacy standards, through a combination of established measures and standards used by comparable institutions, and discipline-specific, user-based evaluations conducted by the academic programs. The Library should then provide a plan for meeting any shortcomings.

4. *WebCT bridge course for transfer students.* We recommend the development of a WebCT bridge course for transfer students, to be piloted and finalized according to the same timeline as the enhanced College Composition II courses. Transfer students will register for the WebCT bridge course in conjunction with an upper-division course in their major that has been designated by the academic program as an information-literacy based course. The basic WebCT bridge course should be created by a team of College Composition II instructors, Library staff, Instructional Technology staff, and other information literacy experts, and should make maximum use of existing on-line information literacy, research, and writing resources. Specific WebCT bridge modules to augment the basic course should be created by the same team in collaboration with each of the academic programs. In addition, library orientations and workshop sessions should be built into the course. This WebCT bridge course is not intended to be a static, automated, and/or isolated distance-learning course, but rather an interactive resource supplementing the major courses. It should be actively maintained and coordinated with activities in those courses.

5. *Information Literacy Regional Consortium for transfer institutions.* We recommend that a FIPSE proposal for the Information Literacy Regional Consortium be developed and submitted by the Department of Composition and Rhetoric in conjunction with the Library and Instructional Technology, and with assistance from the Provost and the South Jersey Two and Four Year Colleges organization.

These arrangements with transfer institutions will be negotiated by the Provost. The Provost will also need to provide support to obtain external funding for the Regional Consortium, as well as guarantee continued funding when the grant period is over.

6. *Meeting staffing needs.* Because these recommendations greatly impact the Department of Composition and Rhetoric, particularly in terms of the need for intensive faculty involvement, commitment, development, and support, the heavy reliance on adjunct faculty in this department is a priority issue. We recommend that the Provost, the Dean of the College of Communication, and the Department Chair develop and implement a plan for meeting the staffing needs of the Department of Composition and Rhetoric. A projection of these needs, based on implementation of the 4-credit College Composition II model and taking into account a targeted reduction of reliance on adjunct faculty, is shown in Appendix G. These specific figures are provided to emphasize the extent of the need.

The staffing needs of the academic programs participating in the 6-credit linked College Composition II courses are another immediate priority. These needs should be evaluated by the relevant departments and their Deans, and appropriate staffing plans should be developed and implemented.

The same determinations should be made by the Provost and the Dean of the Library for the staffing needs of Campbell Library. As noted below under 7. *Meeting professional development needs*, the Library will not only have a central role in the instruction of students, but also in the training of faculty.

We emphasize, however, that information literacy instruction will not only be located in composition courses and the library, but throughout all academic programs. Consequently, the needs cited above—intensive faculty involvement, commitment, development, and support—are omnipresent. Therefore, although it is beyond the scope of these recommendations to specifically project the staffing needs of all departments, we urge that over-reliance on contingent faculty be addressed across the campus. This issue must be made an institutional priority.

7. *Meeting professional development needs.* We recommend that the Provost, Deans, and Chairs evaluate the professional development needs of the Department of Composition and Rhetoric and of each academic program. Faculty will need training in many areas, including information architecture, electronic research methods, and research pedagogies. Professional development plans should be developed with assistance from the Faculty Center for Excellence in Teaching and Learning in conjunction with the academic programs. Campbell Library and Instructional Technology staff will also

provide much of this training as well as the supporting facilities and resources. We suggest that other existing resources also be called upon when appropriate—for example, the expertise of the Computer Science department or the Educational Technology degree program. We strongly recommend that professional development be designed to include adjunct faculty as well as permanent faculty and staff. At the same time, we re-emphasize the need to attend to staffing issues as discussed above under *6. Meeting staffing needs*.

In order to provide adequate training for faculty, proper space and equipment must be secured. We recommend that the Information Resources Training Rooms be immediately equipped with equipment that can be used for information literacy training. The task force also recommends that this equipment be replaced every three years. In addition to Instructional Technology Services, the Faculty Center for Excellence in Teaching and Learning and the Campbell Library staff should be authorized to use these rooms to provide training.

8. Assessment. We recommend that the Department of Composition and Rhetoric develop and implement methods for baseline assessments, to be conducted immediately, to identify and measure current learning outcomes in College Composition II. We also recommend that baseline assessments be developed and conducted to identify and measure current outcomes in upper division courses in the academic programs. In both cases, assessments should be based on a combination of internally developed direct measures (based on course descriptions, course syllabi, and evaluation criteria and methods, especially the use of portfolios) and standardized assessment instruments available from the Association of College and Research Libraries. We recommend that the Learning Outcomes Assessment Committee be directly involved in both sets of assessments, as Information Literacy will be a focus of ongoing institutional assessments. The development of the College Composition II assessments should be coordinated with the work being done by the General Education Task Force on assessing the Communications Bank.

Midpoint assessment methods for the pilot versions of College Composition II need to be developed, following the approach outlined above.

Corresponding endpoint assessments methods for College Composition II and the upper division courses in the academic programs also need to be developed, following the approach outlined above, to be implemented when Information Literacy instruction is formally incorporated into these courses.

The Provost will need to dedicate resources as necessary for assessment, including funds for assessment training (which may include books, memberships, or travel to conferences or institutes), outside consultants, assessment instruments, and reassigned time for faculty with key responsibilities.

9. Formation of oversight committee. We recommend the formation of an ongoing Information Literacy Oversight Committee. This committee will have

responsibility for ensuring that the implementation plan is carried out, including the course proposals, pilots, and assessments, for maintaining the WebCT bridge course for transfer students, and for proposing and coordinating the Regional Consortium. Although this committee would probably be most appropriately formed as a standing University Senate committee, we recommend that a core of multidisciplinary staff with expertise in and direct involvement with information literacy be cultivated and retained on the committee.

RATIONALE FOR RECOMMENDATIONS

Analysis of Other Options

By considering what comparable institutions offer (Appendix B) and reviewing the possibilities for information literacy instruction at Rowan (Appendix C and Appendix D), we identified and evaluated several options. The options and our conclusions are summarized below:

1. *A one-credit course.* Create a one-credit information literacy course to be required of all students and/or provide instruction through on-line tutorials.

The task force consensus is that this option is too limited. The nature of the outcomes specified by the information literacy standards is such that students can most effectively meet them when their work with information is linked to meaningful course content. In addition, neither the one-credit, stand-alone course nor the on-line tutorial is consistent with the concept of information literacy as an ongoing process involving lifelong learning.

2. *Library-based instruction.* Enhance the staff and resources of the library and assign sole responsibility for information literacy instruction to librarians.

The library will play a primary role in information literacy instruction. However, sole responsibility should not rest there. *Characteristics of Excellence* states that an accredited institution is characterized by “collaboration between professional library staff and faculty in teaching and fostering information literacy skills relevant to the curriculum and to faculty research.”

3. *Augment existing composition courses.* Intensify existing information literacy instruction in Composition I and/or Composition II within the current three-credit structure.

Although information literacy objectives are currently addressed to a certain extent by the First-Year Writing Program curriculum, the level of information literacy competency represented in the performance indicators could not be met with current time and resources. Because all students (with the exception of transfer students) take these courses, and because those students enter with varying levels of ability and experience, the primary focus, especially in Composition I, is on the enhancement of writing abilities and the development of college-level critical thinking skills. Even in Composition II, where the focus shifts to information literacy with the research paper assignment, other important needs are present. A great deal of time still must be spent helping students build on existing skills such as organization, revision, and editing. Students also work intensively on mastering argumentative and persuasive writing, as well as mechanical and rhetorical methods of incorporating researched material. Therefore, while students are introduced to methods of locating, evaluating, and analyzing sources, competing demands mean that the amount of time available for directly supervising and assisting

students as they conduct their research is insufficient for development of the level of competency that the standards dictate.

4. *Writing intensive courses.* Make information literacy a component of the writing intensive courses.

Because the writing intensive courses vary greatly in terms of how writing is applied and whether research is a component, the learning outcomes for students are inconsistent. In addition, writing intensive courses are spread throughout the curriculum (general education as well as in the academic programs), thus making it difficult to standardize expectations regarding information literacy instruction. We do expect that some writing intensive courses will be designated as appropriate for advanced information literacy instruction.

5. *Discipline-specific follow-up.* Encourage each program to create a model for introducing and developing discipline-specific information literacy.

Discipline-specific instruction in information literacy is essential and is part of the recommendations. However, without the foundation of information literacy established in our recommended expanded version of Composition II, all students would not be prepared to meet the demands of research in their majors. In addition, students would likely not encounter intensive information literacy instruction until late in their education.

Conclusions

Although many of the methods and resources discussed above are valuable and can be a key part of information literacy instruction and practice, we conclude that stand-alone courses, one-time general education requirements, online tutorials, and other modular approaches do not satisfy our educational objectives. We recommend, rather, that Rowan University lead the way in creating an ongoing program that provides all students with a strong foundation in information literacy, including intensive hands-on practice augmented with generous assistance from faculty and librarians, followed by advanced, discipline-specific work. This cumulative growth in knowledge and skills linked to meaningful course content best meets Rowan University's educational goals of developing active, lifelong learners through quality student-centered instruction.

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APPENDICES

- H. Complete Pamphlet on Information Literacy Competency Standards for Higher Education Including Standards and Performance Indicators
- I. Information Literacy Programs at Selected Universities: Contrasts and Comparisons with Rowan University's Program
- J. Assessing Information Literacy at Rowan University: Faculty Teaching Gen Ed and WI Courses
- K. Matrix of Findings of Initial Assessment of Information Literacy Instruction in Composition Courses
- L. Assessing Information Literacy at Rowan University: Graduate Students
- M. Timeline of Implementation Steps
- N. Faculty Need Analysis for the Department of Composition and Rhetoric

APPENDIX A
COMPLETE PAMPHLET ON INFORMATION LITERACY COMPETENCY
STANDARDS FOR HIGHER EDUCATION INCLUDING STANDARDS AND
PERFORMANCE INDICATORS

APPENDIX B
INFORMATION LITERACY PROGRAMS AT SELECTED UNIVERSITIES:
CONTRASTS AND COMPARISONS WITH
ROWAN UNIVERSITY'S PROGRAM

Introduction

For many years, the Rowan University Library has been committed to developing a structured instructional program that would reach every incoming freshman and transfer student with a basic introduction to library services, collections, facilities, and databases. In 1999 we reached that goal with the help of the Composition & Rhetoric Department. Their Composition One and Composition Two courses now include a required component provided by librarians to all sections during the fall and spring semesters. This program, which helps freshmen and transfer students learn to use many information resources effectively, is a beginning step within the broader framework of information literacy.

In addition to this anchor program, Campbell Library offers a 12-week Workshop Wednesday series featuring a different subject or discipline-oriented group of databases each week. These workshops are 45 minute sessions; pre-registration is not required. Campbell Library also provides database instruction and tours to approximately thirty classes and groups upon request each year, including specialized instruction in business and education resources. These sessions meet in the library computer laboratory. Supplementing these instructional efforts are PowerPoint and Macromedia "Flash" tutorials on searching techniques and web page evaluation, as well as a virtual tour—all accessible from the library homepage. Printed handouts on "how to" use library resources, and guides to the literature of various academic disciplines continue to be among the most popular formats for instruction.

In an effort to compare our fledgling program with other more fully developed programs, the Task Force examined offerings at several other institutions, both peer institutions and some universities much larger than Rowan. Since colleges and universities the same size as Rowan usually had instructional programs similar to ours, further examination of these programs was not particularly helpful. The Task Force wanted to study institutions that used varying formats and methods to teach information literacy. We examined programs based on a required information literacy course; another delivered instruction through interactive tutorials; one was integrated with a computer literacy course; while others used combinations of these methodologies. We compiled most of the information from web sites. If questions arose, members of the Task Force called and talked with the librarian administering the program. Below are synopses of several programs.

SUNY-Albany (see <http://library.albany.edu/usered/>)

SUNY Albany offers a multi-tiered program consisting of the following elements: To meet General Education requirements, approved courses introduce students to various ways in which information is organized and structured and to the process of finding, using, producing, and distributing information in a variety of formats. Students learn to evaluate information, to use information ethically and professionally, and to adjust to

rapidly changing technology tools. Students must complete this requirement within the freshman or sophomore year.

Courses that satisfy the Information Literacy requirement will have three characteristics:

- Classroom activities on finding, evaluating, citing, and using information in print and electronic sources from the University Libraries, World Wide Web, and other sources. Courses should address questions concerning the ethical use of information, copyrights, and other related issues that promote critical reflection.
- Assignments, course work, or tutorials that make extensive use of the University Libraries, World Wide Web, and other information sources. Assignments should include finding, evaluating, and citing information sources.
- At least one research project that requires students to find, evaluate, cite, and use information presented in diverse formats from multiple sources and to integrate this information within a single textual, visual, or digital document.

To have a course designated to meet the requirement, faculty submit proposals to a committee of four faculty members, two librarians, and an associate dean in Undergraduate Studies for General Education.

In addition to designated information literacy courses, the SUNY Albany Libraries offer the following:

1. UNL 205, Information Literacy. This is a one credit, quarter-long course that meets the University's General Education requirement. Librarians offer the course each quarter during the fall and spring semesters and during the summer.
2. Course-related instruction. Librarians are also available to teach specialized sessions to classes upon request. They work closely with faculty to develop each class, and it is taught in conjunction with a research assignment. The structure and content vary depending on the needs of a particular course. The sessions might be either demonstration classes or provide hands-on experience.
3. General Instruction sessions. Each semester the librarians offer a variety of sessions designed to acquaint new and continuing students, staff, and faculty with the resources available through the libraries. These are introductory sessions dealing with topics such as an overview of electronic databases; how to use the online catalog; and how to remotely access library resources. Discipline specific sessions concentrate on resources for a particular field, such as history or mathematics. A schedule of sessions is posted at the beginning of each semester; all sessions are open to the entire University community.
4. Online tutorials. The library's web page provides access to instructional materials produced by SUNY Albany as well as links to tutorials produced

elsewhere, such as the TILT program at the University of Texas. Tutorials allow students to identify themselves and their instructors so that they receive credit for completion of the tutorial.

5. The libraries also provide tours, as appropriate, and printed guides to the use of collections and resources.

Rutgers University (see http://www.libraries.rutgers.edu/rul/lib_instruct/lib_instruct.shtml)

Although Rutgers University endorses information literacy as a goal for undergraduate education, a formal program or curriculum specifically identified as “Information Literacy” has not been established. Rather, two activities have been undertaken as a joint faculty/librarian effort that meets the spirit and intention of the ACRL’s *Information Literacy Competency Standards for Higher Education*.

One is a course entitled “Shaping a Life,” required of all first-year women students at Douglass College. The focus is interdisciplinary and integrates library research into the course’s learning modules. Subject-specific resource guides were created by the librarians on such subjects as adoption, women and addiction, women and homemaking, women as teachers, and women in the professions.

The other information literacy activity involves a basic writing course required of all undergraduate students. As it was structured this year, the 50-section course was a collaborative effort between the librarians of the four New Brunswick campuses and the faculty teaching the sections. In some of the sections, up to four sessions were devoted to library activities. These were tailored to individual instructor requirements as far as was practical. Students were able to test-out of the requirement, and different colleges interpreted the word “required” in its various connotations.

Under the rubric of “library instruction,” Rutgers offers two self-contained instructional programs on their main library Web page: a short “course” developed mainly for distance/off-campus users, and an interactive tutorial entitled the “Knowledge Maze.” The short course, which is prefaced with an audio and video message from the Dean of RUL, covers in eight sections such topics as connection to RUL, locating books and journals, conducting library research, and evaluating library resources. Knowledge Maze consists of four interactive chapters covering the Online Catalog, Searching the Online Catalog, Introduction to Indexes, and Searching Indexes. Each section includes a test module for the viewer to assess understanding of the chapter. This information is not recorded or used for any other instructional or data-gathering purpose.

University of Scranton (see <http://www.uofs.edu/wml/bihip.html>)

Library instruction at the University of Scranton is handled through a flexible program that allows any current faculty or student of the University to request library instruction. One coordinator and ten other librarians participate in the program.

Administratively, the program is linked to several other campus programs, including Freshman Seminar, Communication 100, English 107 (the traditional freshman composition model, equivalent to Rowan University’s College Composition II), and the

Computer literacy Instruction Program. Instructors in Freshman Seminar are encouraged, but not required to bring their students to the library where trained student workers, similar to Rowan PROS, conduct tours. In Communication 100, librarians conduct instructional sessions that cover searching for books and periodicals the students will need for oral and written class assignments. In English 107, a required course for Scranton students, the librarians cover searching of electronic periodical databases that will provide information for research papers. However, the library's program is most closely tied to Computer Information Literacy, a four-credit course, of which one credit is based on library instruction. The library component consists of one lecture and two hours of lab sessions, culminating in an exercise that is graded by the library staff. A power point presentation (available online) provides additional information and a means of make-up for students who miss instructional sessions. A new program, to be linked to another communication course, Media Information Technology, will involve librarians teaching one session of that course, informing students about electronic resources and information retrieval.

Instruction takes place in two dedicated instructional labs within the library, one with a rear projection screen for instructor-paced presentation. The other lab contains fourteen individual workstations for hands-on student searching of databases. However, librarians often conduct instructional sessions in larger labs elsewhere on campus.

The library also posts web pages on the internet that contain lists of reference materials in twenty-nine curricular areas to act as supplemental material for instruction for classes in those disciplines. For example, the list of material under the heading "Film Criticism" contains twenty-three references, from the rather general *Reader's Guide to Periodical Literature*, *Humanities Index*, and the *New York Times Index* to discipline-specific works such as *The Oxford Companion to Film* and *Magill's Cinema Annual*. Web pages for other disciplines contain similar lists. The library will also specially prepare handouts and pathfinders for specific groups or classes upon request.

James Madison University (see <http://www.lib.jmu.edu/library/gold/modules.htm>)

The information literacy component, entitled "Go for the Gold" is embedded in the university's general education program. The information literacy requirement, referred to at JMU as "information-seeking and evaluation skills," meets two skills objectives of the JMU General Education program:

- Formulate and conduct an effective information search that includes a variety of reference sources, such as encyclopedias, library catalogs, indexes, bibliographies, statistics sources, government publications, and resources available on the Internet.
- Evaluate information sources in terms of accuracy, authority, bias, and relevance.

These objectives underscore the university's belief that the fundamental knowledge and skills needed to find information are necessary both for successful completion of university classes and for life after graduation.

To achieve these objectives, eight online modules have been designed to introduce the freshman to the basics of information literacy as well as to acquaint the student with the variety of information resources and services available at the university's library. Each module consists of learning objectives, instruction, hypertext links to information sources, and online exercises.

All students are required to pass the ISST (information seeking skills test) during their freshmen year. Successful passing of the ISST is noted on the student's transcript. Students who fail may re-study Go for the Gold or attend a library workshop and then retake the test. Students who do not pass by the deadline have a registration hold placed on their academic records.

University of Texas (see <http://tilt.lib.utsystem.edu>)

The Texas Information Literacy Tutorial (TILT), sponsored by the University of Texas System Digital Library, is an online tutorial designed to introduce students, primarily freshmen, to basic concepts of information literacy. It is intended to provide a common base of knowledge for all students, as a supplement to more in-depth library instruction provided for course related research.

The tutorial consists of an Introduction and three modules: Selecting, Searching, and evaluating, each of which covers specific information literacy competencies. students may select one of two versions of the tutorial: "TILT Lite" which does not require plug-ins, or "Full TILT," a fully interactive version. Both provide the same information. Each module takes approximately 30 minutes to complete and is followed by a short quiz that provides instant feedback to both correct and incorrect answers. The quiz may be taken as many times as necessary, but must be completed each time. Results may be printed or emailed to provide documentation that the module has been completed.

To begin the tutorial, students are invited to choose from among six subject areas including censorship and freedom of speech; global communities; Internet business; laws and regulations; new trends; or security and privacy. All subsequent information is presented using examples related to the subject area chosen. Theoretically, the information will thus be of more interest and have more relevancy.

An introductory module defines information literacy, and discusses common Internet misconceptions.

Module I, Selecting, focuses on different sources of information, including magazines, journals, newspapers, books, the library catalog, periodical indexes, encyclopedias, web sites and email. For each source, the authors provide a definition, give examples, and describe the type of research for which it might be best used. A major emphasis of the module is differentiating between popular and scholarly journals.

Module II, Searching, provides instruction on effective search strategy, developing search terms, Boolean operators, and selecting appropriate sources for information.

Module III, Evaluating, explains locating, evaluating and citing print and electronic sources. Plagiarism is also discussed.

Generally, the tutorial is well-designed, easy to use, covers the basics, and includes assessment and feedback capabilities. While it addresses a number of the ACRL *Information Literacy Competency Standards for Higher Education*, it doesn't include all of them. Other institutions are invited to adopt the tutorial as long as credit is given to UT. Their web site provides instructions on how to mount and customize the software to meet the needs of individual libraries.

APPENDIX C
ASSESSING INFORMATION LITERACY AT ROWAN UNIVERSITY:
FACULTY TEACHING GEN ED AND WI COURSES

The task force chose to address the common thread of information literacy training encountered by every student on campus independent of program or major. We focused on General Education (GE) and Writing Intensive (WI) courses. In the undergraduate curriculum, every student must complete a significant number of GE courses as indicated in Table 1. In addition, all students must take at least one course that is designated as a WI course. Any WI course requires College Composition II as a prerequisite. This course can be a general education course but this is not a requirement. Many of the WI courses at Rowan are imbedded as major courses. Writing intensive courses are particularly meaningful to this evaluation since the WI requirement must be fulfilled at Rowan, i.e. it cannot be a transferred course.

Table 1: Current general education requirements, listed by degree type, at Rowan University.

General Education Areas	BA	BS	Specialized
Communications	9	9	9
Science and Mathematics	10	10	7
Social and Behavioral Sciences	12	9	6
History, Humanities and Language	12	9	6
Electives	14	8	11
Arts	3	3	3
Total	60	48	42

One component of the committee’s assessment of the current situation regarding information literacy training at Rowan University was a survey of faculty teaching GE and WI courses during the spring semester 2002. This totaled more than 520 (including GE-WI courses) courses and roughly **40** other WI courses. If we exclude the 80 Composition and Public Speaking courses, the number to be assessed could be as high as 480. Clearly, interviewing faculty associated with all of these courses is not practical. We decided to assess 60 GE courses and as many WI courses as possible.

Courses/Faculty Surveyed

The number of courses assessed by college should reflect the percentage of GE courses offered by that College. The numbers of GE courses offered by college are shown in Table 2. In order to get 60 useful surveys, we targeted 100 courses. The GE courses were randomly selected by using a random number generator to create 480 numbers that were subsequently attached to the list of courses initially organized by hegis number. Since 76.1% of all general education courses are offered in the College of Liberal Arts and Sciences (LAS), we wanted to collect 76% of our data from that pool. After sorting the courses using the random number, the first 76 LAS courses, the first 6 Communications courses (excluding Composition I, Composition II, and Public Speaking), and so on were selected as indicated in Table 3. Finally, we eliminated from this list WI courses (which would be double counted) and courses which duplicated the faculty member to be surveyed. Finally, courses were eliminated if it was known that the faculty no longer

taught at Rowan (retired, adjunct not continuing, etc). This trimmed the number of possible surveys of General Education courses to 72.

Table 2: Breakdown of GE courses offered by College.

College	Gen.Ed. Courses	Percentage of total
LAS	366	76.1
Business	0	0
Communications	28	5.8
Education	13	2.7
Fine and Perf Arts	74	15.4
Engineering	0	0

Table 3: Number of courses selected to survey from each College.

College	Courses on list
LAS	75
Business	0
Communications	6
Education	3
Fine and Perf Arts	16
Engineering	0

About the Survey

At its most basic level, the survey was designed to determine the number of courses that contain a component which forces the students to develop and employ skills related to information literacy. Higher-level goals of the survey are to assess the “value” of these experiences and to assess resources available for this type of activity at Rowan. It also attempts to determine a baseline of faculty satisfaction regarding students’ research skills. In what follows we present the results of this survey and some preliminary analysis.

Survey Results

Courses and Research Experiences

We have collected a total of 74 useful surveys. These contain information regarding 43 GE and 34 WI courses (three were GE-WI). Of the 43 GE courses, 22 contained a research component/project. All but two of the 34 WI courses had an imbedded research component. Based on the GE model outlined in Table 1, these numbers suggest that the typical student pursuing a degree taking general education courses entirely at Rowan will encounter 7-10 courses with an imbedded research component. Furthermore, it would be highly unlikely that a student could graduate from Rowan without a research project imbedded in their writing intensive course.

There were not enough surveys collected to say anything statistically meaningful regarding the effectiveness of each GE bank, e.g. Social and Behavioral Sciences. However, it is interesting to compare the banks. This comparison is made in Table 4. When looking at the number of courses surveyed by bank, it is interesting that the GE-HHL bank and the GE-Arts bank have significantly fewer responses than the other two.

The GE-Arts bank number is expected since fewer courses in this bank are required/offered annually. The GE-HHL bank has the smallest numbers of courses evaluated. This is surprising since many courses in this bank are offered. The original call list contained 20 GE-HHL (in comparison to 23 GE-SBS) courses. The low yield likely reflects a large number of adjuncts without on-campus contact information, discontinued adjuncts, and/or the nature of the work undertaken by people in these areas. Perhaps much of their work is performed at off-campus locations making them more difficult to contact.

Table 4: General response to the survey and most general results.

Course Description	Number of courses	Percent of total courses evaluated	Number containing research experience	Percent containing research experiences
GE-SBS	16	23.9	7	43.8
GE-HHL	6	9.0	3	50.0
GE-SM	12	17.9	5	41.7
GE-Arts	9	11.9	7	77.8
GE-Overall	43	62.7	22	51.2
WI	34	41.8	32	94.1

Table 5 demonstrates the differences between GE courses and WI courses with regard to development of information literacy. WI courses seem to provide a better experience for the development of information literacy skills in two areas, evaluating sources, discussing forms of citations, and also because the projects are often longer. GE courses tend to discuss the synthesis of information from the sources more frequently.

Table 5: Responses to questions directly related to the goals of information literacy training. The percentage of total courses in GE or WI with a research component is in parentheses.

Courses	(a) Discuss locating sources	(b) Discuss evaluating sources	(c) Discuss org. and dev. of paper	(d) Discuss synthesis of information	(e) Discuss citations	Projects longer than four pages	Projects req. more than four references
GE	17 (77)	13 (59)	19 (86)	19 (86)	16 (73)	10 (45)	6 (27)
WI	26 (81)	25 (78)	30 (94)	23 (72)	28 (88)	25 (78)	7 (22)

Of the 52 courses with embedded research experiences, only 20 contained discussions of all five columns (a)-(e) in Table 5. Only seven had these components and projects greater than four pages in length and with more than four citations.

The final column in Table 5 is the least reliable of the data set. If a faculty directing a course stated that they set no minimum of references, we assumed the number of references would be less than 5. If we had the information, a better question may request typical numbers of citations.

Information Regarding the Library

The library holdings are adequate or more than adequate for most of the research projects undertaken, according to the responses summarized in Table 6. It should be recognized that general education courses are intended for a broad audience and often do not have any prerequisite courses. This positive response may need further investigation. For example, it is interesting that four of the six faculty who thought the library resources for their course were adequate taught WI courses. Furthermore, the students in two of these courses were mostly sophomores, mostly juniors in one, and mostly seniors in three. For courses that do not have a prerequisite, the enrollments were typically mixed. This suggests that the faculty who found the library holdings inadequate were faculty who expected research in a specialized area.

Table 6: Response of faculty guiding research based activities to questions regarding adequacy of the library.

Satisfaction w/ holdings	Number of responses	% of total
Excellent	7	13.5
Good	16	30.8
Adequate	14	25.0
Somewhat Inadequate	3	7.7
Inadequate	2	3.8
No Response	10	19.2

It is surprising that 10 of the faculty surveyed did not respond to this question with a definite characterization. Of these, a few responded that they did not find out how or where the students found their information. Two said the library was not relevant to their assignment. A couple stated that the students did not complain about the library resources. A few others responded that they did not require the library to be used (all research could be web based)

Five of the 74 instructors surveyed utilized library staff to assist in the training of students to find sources related to their topics in order to complete their research activity. Four of these five instructors rated the instruction by the library staff as either effective or very effective. The one who stated that it was adequate gave no indication of a negative encounter. Library assistance appears to be an under utilized service. Several faculty stated that they assumed the students would get this training elsewhere. Yet our survey suggests that the lower level courses had an even lower frequency of asking assistance of the library staff than the more advanced WI courses.

Faculty Perception of Students

The information and research abilities developed by most students participating in research activities met with faculty expectations. (52 instructors surveyed) The breakdown of faculty responses is shown in Table 6.

Table 6: Response of faculty guiding research based activities to questions regarding satisfaction with students' research abilities.

Satisfaction with student abilities	Number of responses	% of total
Most students met my expectations	33	63.5
More than half met my expectations	14	26.9
About half met my expectations	3	7.7
Fewer than half met my expectations	0	0
Few students met My expectations	2	3.9

Faculty Information

Most of the faculty surveyed were full time tenured or tenure track faculty. Roughly 12% (9/74) of the faculty surveyed were adjunct faculty. Of these, five (56%) imbedded research projects into their course.

Impressions Based on Faculty Comments and Survey Trends

The survey solicited opinions of from faculty which are not statistically relevant but yet provide useful insight which should be evaluated as part of the survey analysis. It should be noted that several faculty suggested evaluating other courses in their program which they mentioned “would be more appropriate” for the survey. These were typically major courses at 300 and 400 levels. We recognize this as a shortcoming of this survey. However, it was the intention of this survey to evaluate courses required of all students rather than courses required of individual programs. For this reason we have focused on GE and WI courses. For a complete evaluation of information literacy at Rowan University, it is important to evaluate upper level courses and courses within programs. Recommendations for performing this will be included in the implementation plan developed by the information literacy task force.

Another common response regarded the training of students to use library resources. Some faculty went to the library and helped the students get started finding sources. A few asked the library staff to assist. However, some made the assumption that students learned how to find sources in an earlier course or ask the library staff directly for assistance. Requesting support from the library is likely the most efficient way for students to become aware of the range of resources available to them.

Summary

It is clear that more WI than GE courses contain imbedded research components. Of the courses with imbedded research components, WI courses tend to emphasize seeking and evaluating sources more than the GE courses. The GE courses tend to discuss how to synthesis information more uniformly. The fact that WI courses often require longer papers suggests that more time is dedicated to the projects in WI courses in comparison with GE courses.

It is also important to note that relatively few of these courses, GE or WI, are imbedded with major projects containing substantial discussion of how to perform research. This may be the most important finding of the survey. While many courses have components that provide important experiences leading to information literacy, few single courses contain a coherent approach. This is understandable since the information literacy component is most likely secondary to the instructor of a course. This is particularly true in a general education course (in any topic), where the course content is intended to reflect the science, history, or language topic contained in the course title. We currently do not have a course that explicitly addresses information literacy. It is important to address this shortcoming.

Possible Enhancements

Based on comments, several faculty interviewed would have preferred to discuss upper level courses required of programs in their departments. Information literacy training cannot adequately be achieved in the first two years of a student's undergraduate career. It is important to evaluate information literacy in the major. We expect that this broadened survey would reveal a need for additional information research infrastructure.

It is difficult to imagine a situation where the number of research experiences and the quality of those experiences does not depend on whether a faculty is full- or part-time. However, our survey provides no evidence that full-time faculty provide more experiences related to information literacy than part-time faculty. However, the number of non-tenure track faculty is small (9) and not statistically relevant. For this reason, a survey of part-time faculty should be undertaken while they are teaching to remove issues which may affect the results, i.e. difficulty reaching adjunct faculty.

Our survey evaluates a single project performed in a class. It would be very interesting to determine the time fraction of the course spent on information literacy related activities. A question regarding the number of research activities may also be appropriate.

APPENDIX D
MATRIX OF FINDINGS OF INITIAL ASSESSMENT OF INFORMATION
LITERACY IN COMPOSITION COURSES

APPENDIX E

ASSESSING INFORMATION LITERACY AT ROWAN UNIVERSITY: GRADUATE STUDENTS

While it might seem obvious that graduate programs, due to their nature, would have a heavy emphasis on information literacy, the committee decided that it was worth verifying the awareness of information literacy skills among the graduate programs. Consequently, a telephone survey of the graduate advisors, similar to that used to analyze undergraduate writing intensive and general education programs, was undertaken.

Background on Rowan Graduate Offerings

Rowan has a variety of graduate programs, including seven certificates of graduate study, six programs leading to endorsements on New Jersey teaching certificates, twenty-seven master's degrees (counting the Master of Arts in Subject Matter Teaching as five separate degrees), the Educational Specialist program for post-master's certification in school psychology, and the Ed.D. in educational leadership. With the small number of programs, sampling was not needed. Due to time constraints, the certificates of graduate study were not included in the survey. Two master's degree programs were eliminated from consideration, one because the advisor was out on extended sick leave and one because the program had been suspended due to lack of enrollment. Advisors from 26 programs responded. Eighteen of the programs surveyed are located in the College of Education (COE), which is not surprising as 26 Rowan graduate programs either reside in or are shared with COE. All six colleges at Rowan were represented by responses.

Survey Methods and Findings

The survey focused on research methods courses and the literature review for the final demonstration of mastery, which could be a thesis, a project, a dissertation, or another form of performance. Certainly these are not the only possible indicators of information literacy at the graduate level; however, they represent culminating milestones and have face validity as indicators likely to have equivalents across a set of varied programs. Out of the 26 responding programs, 15 require a research methods course and 11 do not. Of the programs not requiring a research course, four are certification programs, one program requires an MA as an entrance requirement, and six are master's programs. Four of the master's degrees without a research methods course require a thesis or final project, and the advisors indicated that research methods are taught either through the thesis courses or through the one-on-one contact required to complete the thesis. The other two master's programs are in fields for which a typical master's thesis is not considered an appropriate capstone accomplishment. These programs require other kinds of demonstrations of proficiency comparable to research and study in other disciplines.

At the master's level and beyond, all graduate students in the programs surveyed receive background and hands-on experience in research methods acceptable to their fields of study. While we did not ask historical questions, there seems to be an increasing emphasis on research methods courses in the master's programs.

The four certification programs without research methods courses are designed to meet competencies required for their respective certification endorsements from the New Jersey Department of Education. If the NJDOE required research methods for these certifications, the programs would surely provide the background. The advisors to these four certification programs identified courses within the programs that required students to demonstrate information literacy skills in some fashion, such as papers, bibliographies, or presentations.

Eighteen of the twenty-six programs require a thesis, project, or dissertation with a literature review. The ability to use information found in a variety of source types is an important indicator of information literacy. Thus, we asked advisors which formats they recommended to their students for their literature reviews. Table 1 indicates the answers given.

Table 1. Acceptable Information Formats for the Literature Review.

Type	Number of programs	Percentage of programs
Refereed journal articles	18	100
Research reports	14	78
Databases	18	100
Professional association materials	17	94
Audiovisual materials	9	50
Websites	17	94
Non-refereed articles	12	67
Books	18	100
ERIC documents	15	83
Conference proceedings	14	78
Reference books	16	89
Theses and dissertations	13	72

To this list, the advisors added formats that would be acceptable to particular research designs or the field of study: interviews, discographies, primary sources, gene and data banks, the student's own observations, and sources that a professor might provide. The original survey did not include theses and dissertations as a category; the survey administrator realized the omission part of the way through and added them to the list. The 13 advisors who said that theses and dissertations would be permitted are those who were asked about them. It is unlikely that any program would recommend not including theses or dissertations in a literature review. As one advisor observed, there are few absolutes in the literature review. Several advisors pointed out that the relevant factors are the pertinence and quality of the materials reviewed, regardless of the format. Some of the formats of literature are not relevant to all fields; ERIC documents are usually of interest only to education research, for example. It is notable that the sources considered are fairly conventional and print based. Audiovisuals, such as videos and DVDs, were rejected by half of the advisors polled. This may be a reflection of the fact that relatively few of the graduate degrees at Rowan are in the arts and humanities, fields in which visual and aural materials would be considered necessary research background. The advisors were quite open to Websites—sometimes, however, with the caveat that they should be reviewed or otherwise of demonstrable quality.

Completing the literature review in an acceptable manner requires students to accomplish many information literacy tasks. The survey asked advisors if they discussed or demonstrated these tasks with students in class or individually. Table 2 displays the answers given to these questions. For the most part, the graduate advisors believe that students are being well-prepared for their literature reviews.

Table 2. Literature Review Activities Discussed or Demonstrated.

Item	Yes	No
Strategies for identifying relevant items	18	0
Locating/acquiring items	16	2
Evaluating quality & relevance	18	0
How to cite references	18	0
Organizing/developing the literature review	18	0

Of the 18 programs with a literature review, 11 require the use the APA citation style, 1 program uses MLA, 2 use Chicago, and 2 programs have other citation styles. One program requires students to use a style but does not specify which one.

Library Assessment

Because the literature review requires access to citations and physical items, we asked if the graduate faculty had ever asked the librarians to instruct their students in using library resources for their literature reviews. Eleven advisors said yes, seven said no. One advisor who said yes indicated that most students felt they didn't need the librarian's instruction and that they are no longer brought to the library for instruction. Of the advisors who do not bring their thesis students to the library for instruction, one said that students work individually with the thesis advisor, one said that students go on their own if they determine a need for assistance, and a third advisor said that the faculty know the field better than the librarians and the students need a specific focus that the faculty member is better able to provide. When asked how effective the instruction was for the students, eight advisors chose "very effective", and no one suggested any lower rating of the librarians' instruction. The advisor who said that most students didn't need the instruction noted that the instruction was very effective for those students who did need it. Three librarians were mentioned by name as particularly effective. One advisor observed that the schedule was so full that she wasn't able to actually to arrange for instruction and two others had not had personal experience with the librarians' instruction and weren't able to comment.

The library's collections received more mixed reviews than the librarians' performance as instructors. Due to an error in the construction of the survey, only those persons who said yes to having asked the librarians to instruct their students were asked about the library's collections. When asked about the adequacy of the library's collections for students doing literature reviews in their field, these advisors were mostly positive, but there were some dissenting voices, as shown in Table 3.

Table 3. Perceptions of the Library's Collections Adequacy for Graduate Literature Reviews

Quality	Number of Responses	Percent of Responses
Nearly everything needed	4	33.3
Most of what is needed	4	33.3
Some of what is needed	1	8.3
Not enough of what is needed	2	16.7
Very little of what is needed	1	8.3

Two other advisors made negative comments about the library's collections in other parts of the survey. If added to the totals above, we would have eight advisors believing the library's collections were adequate and 6 believing the collections were not adequate in their fields. Although there have been identified collection needs in the sciences, there is no particular pattern to the dissatisfaction with the collections in terms of academic disciplines on this survey. Advisors voicing concern about the adequacy of the collections came from programs in the Colleges of Liberal Arts and Sciences, Fine and Performing Arts, and Education. One advisor commented that dissatisfaction with interlibrary loan had led the department to begin collecting a library of articles to loan to students. This sort of "bootleg" collection should be of great concern to the library staff and the university administration because it is an indication that faculty have given up hope in the university library's ever meeting their needs or their students needs. While this represents a minority opinion, the goal should be that neither faculty nor students in any program come to perceive the library in this way.

It is also worth considering the possibility that faculty are not aware of the library's actual collections and services. A greater effort at communication and public relations may be needed, targeted at specific departments, a recommendation for personnel with particular expertise in this area.

Faculty Expectations

Because the literature review is only the final demonstration of information literacy, all advisors were asked about other courses or experiences that required students to demonstrate information skills. All but two advisors were able to do so, and with several specific examples. A frequent answer was that all courses required information literacy skills. From the tone of their voices, the survey administrator had the impression that for these advisors, demonstration of information skills was one of the factors that would be expected in a graduate course. While one advisor said definitely no courses or experiences required students to use information literacy skills of the types that had been discussed in the survey, another advisor was not sure but did identify an online database that students were expected to be able to use.

When asked about their most important expectations for graduate students' information literacy skills, the advisors were quite eloquent. Only one advisor stated that the program had no expectations. This was a certification program which requires a master's degree for admission, and students were expected to "come armed" with information literacy skills. The other 25 advisors had a variety of expectations presenting several patterns. Their answers emphasized graduates' abilities, concepts, and future orientation.

Frequently, advisors said they wanted graduates of their programs to be able to find, evaluate, and use research in their field to inform decision making. Some advisors stressed critical thinking, as well as valuing, having confidence, and being comfortable in using research literature. Remaining current and becoming lifelong learners were also mentioned by advisors as important goals. Contributing to their professions was a goal for some advisors, who wanted their students to be able to design and conduct research, write articles, or present at conferences.

Do graduates of the graduate programs meet these expectations held by their advisors? Twenty-two advisors said that most students met their expectations, with several of them adding that they don't allow students to graduate unless they meet expectations. Three advisors said that over half of the students met expectations, with another program advisor saying that specific expectations hadn't been set and that the area of information literacy hadn't been specifically addressed in the terms used in the survey. One advisor commented that the program was relatively new and that as it developed it was likely that admissions requirements would become more competitive and the students would better meet expectations, a reminder that admissions plays a role in the quality of graduate programs. What students bring to their programs in terms of information literacy skills is at least as important as the additional skills they acquire at Rowan.

Summary and Recommendations

The strength of survey research is that it elicits opinions; the weakness of survey research is that it elicits opinions. Opinions are valuable for clarifying respondents' perceptions and points of view, and they can suggest arenas for future research. However, surveys cannot be considered more objective than the people perceiving the phenomena. In this survey we found that, generally, the graduate program advisors are positive about the information literacy environment at Rowan and the work of their students. The research with literature review requirement and its equivalents set high standards that most students are able to meet. Assessment of graduate students' final products is in the hands of the faculty advising the students, and we trust that they are doing an excellent job. Some advisors were objective enough to admit that not all of their graduates meet expectations, however.

It could be said that graduate programs at Rowan and elsewhere typically have exit requirements for information literacy skills. However, there are no entrance requirements for information skills except for the two advisors who expect students to have certain kinds of skills because of previous graduate work required for admission into particular programs. At present we have no way of assessing graduate students' entry knowledge or abilities to handle the variety of information sources available on campus, some of which are not readily available in the wider society. We do not know from this survey how graduate students evaluate their own information literacy. It is likely that at least some of our graduate students enter their programs at the age of 40 or 50 with limited previous use of computers and citation databases, little experience evaluating sources, and not much knowledge of search strategies; they are part of the "bridge" generation making the transition to a digital reality, whereas our undergraduates believe themselves to already be the digital generation. Assessing information literacy skills at the beginning

of graduate programs could be used not for admissions but to target instruction towards students' needs to accomplish their graduate work and the advisors' expectations of their performance post graduation.

APPENDIX F
TIMELINE OF IMPLEMENTATION STEPS

APPENDIX G
ASSESSMENT OF FACULTY NEEDS IN THE
DEPARTMENT OF COMPOSITION AND RHETORIC

A tentative assessment of faculty needs in the Department of Composition and Rhetoric to meet the recommendations in this report and the institutional goal of reducing reliance on adjunct faculty is shown below. Because intensive faculty involvement and commitment, along with development and support, is necessary for a high quality information literacy curriculum, the current heavy reliance on adjunct faculty (well over half of all composition courses are taught by adjuncts; sixty percent of College Composition II courses during Academic Year 2002-2003 will be taught by adjuncts) is a priority issue.

Reducing Reliance on Adjuncts to 15%

The President has recommended that the University reduce its proportion of courses taught by adjuncts to 15%. Although this figure is an average, it is used here for the purpose of calculation and is, moreover, a goal we would recommend in the interest of having a high quality information literacy program. The average number of courses offered by the department per year, over the last two years, is 180. Fifteen percent would equal 27 courses per year taught by adjuncts. Meeting this goal with expected staff availability (without accounting for reassigned or released time, teaching in other departments, or other obligations), results in a shortfall equaling 15 courses per year, or almost two full-time faculty, as summarized in Table 1.

Table 1. Number of courses that must be covered per year, showing shortfall with 15% taught by adjuncts.

Average number of courses per year	180
Potential current coverage (10 full-time, 8 three-quarter-time, minus 6 courses for administrative released time)	122
15% taught by adjuncts	27
Two new hires to begin in Fall 2003	16
Number of courses not covered	15

Covering a 4-credit CCII

62 sections of CCII are offered per year. If the course credit load is increased from three to four, 62 additional credit hours will need to be covered. This is the equivalent of approximately 2 1/2 full-time faculty members (with each faculty offering 24 hours per year), for a net gain of at least five full-time faculty members.

Other Considerations

The above projection does not include the proposed reduction of full-time faculty teaching loads to three courses per semester, nor does it take into account increased faculty needs based on growth in the undergraduate and graduate programs in writing. Potential growth in these areas may come from: increased numbers of students as each of these relatively new programs gains visibility and increases its already strong reputation across campus; the possibility increased numbers of students with writing as their

coordinate major; or the addition of a Ph.D. program, for which initial surveys are already underway.