The Activity of Information Literacy:

A Process Assessment of Student Research Skills at The Evergreen State College

conducted in February and May of 2003 by Library interns, senior Evergreen students and members of the Information Technology Literacy Study Group

Summary of Findings and Recommendations

Strengths

- Participants were willing to push themselves into new research and disciplinary areas, and to modify or abandon their research questions in light of experience or feedback from peers.

- Most participants demonstrated considerable sophistication in their research questions and in their ability to synthesize and communicate information relevant to those questions.

- Bibliographic citations were accurate and complete, and several participants demonstrated a keen awareness of the importance of verifying information and tracing 'facts' to their primary sources.

- Participants demonstrated an impressive level of persistence in their search for information, e.g. showing a willingness to venture into unfamiliar content areas and specialty databases.

- Participants often demonstrated a good awareness of the quality of the information they found, being able to judge the relative trustworthiness of online information from various sources.

- Most participants demonstrated an excellent overall command of their research areas, as evidenced by their ability to judge when they reached dead ends in their searches when the lack of information was due to inadequacies in their search methods, vs. information in that area simply not being available online, vs. that the relevant research has not yet been conducted to answer their question.

Weaknesses

- Although most participants demonstrated a deep structural understanding of their research area, they often showed a superficial understanding of online resources and used very simplistic or inappropriate search methods.

- Participants often seemed to sacrifice a comprehensive understanding of information available on a particular subject for a 'my bucket is full' approach: stopping when some limited number of sources were located.[1]

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[1] Caveat: in at least one case, this effect was clearly an artifact of the assessment exercise structure and time limitations.

Implications

- Evergreen students may show some deficiencies in their understanding and efficient use of online resources. Their at times exemplary knowledge of their disciplinary area(s) does not seem to carry over into a knowledge of online resources specific to their discipline, nor to how best to go about seeking information in their field(s).

- A very clear idea of one's research question helps but does not in itself translate to the ability to apply adequate information search and retrieval methods.

- Faculty may want to assess students' abilities to obtain information and offer tutorials or refer students to the Library when deficiencies are detected.

- The positive and enthusiastic response of the participants to this exercise reaffirms that educating students about research methods works best when imbedded within a research context that is of direct and immediate interest to them.

- Assessors without knowledge of disciplinary areas could not know about informational gaps in the final products of research, but these gaps can be detected upon careful and detailed examination of information search histories.

- We found that the principal value of this exercise was that it set up favorable conditions for a useful conversation with students about the process of ITL at Evergreen.

Introduction

Prior to 1999, Washington State four-year colleges were required to provide measures of accountability to the Higher Ed Coordinating Board and Legislature. These included retention, graduation rates and graduation efficiency. Performance targets were set by the legislature. The six public baccalaureates felt that these measures failed to directly assess student learning. In November 1999, the Provosts, the Higher Education Coordinating Board, and members of the Legislature agreed to add measures of "student learning outcomes" to the ongoing accountability efforts. Four areas were endorsed: Writing, Quantitative Reasoning, Critical Thinking, and Information/Technology Literacy.

In 2000 the Washington State Legislature enacted HB 2375, which specifically directed that the six public baccalaureate institutions develop measures to assess student learning with respect to information and technology literacy. They set a timeline for assessment workshops, progress reports, pilot studies, and a feasibility report for a full-scale study of ITL.[2] Representatives from the six public baccalaureate institutions in Washington then met and adopted the Information Literacy Competency Standards for Higher Education developed by the Association of College and Research Libraries (ACRL). These Standards define information literacy as "a set of abilities requiring individuals to recognize when information is needed and to have the ability to locate, evaluate, and use effectively the needed information…." Technology literacy is assumed to be a subset of information literacy in this definition. An inter-institutional working group reflected on the Standards and agreed that students who were information literate would be able to:

- Identify a problem or experience worth exploring.
- Gather information and evaluate the feasibility of addressing a specific question or line of inquiry.
- Reformulate the question if necessary.
- Gather data from a variety of sources.
- Interpret the data accurately.
- Present the results clearly, honestly, ethically, and appropriately with a particular audience in mind.

An inter-institutional working group representing the six baccalaureates met in summer 2000 and created a preliminary scoring rubric based on the ACRL Standards. The rubric was tested and modified in 2000 and 2001, with the modifications resulting in a rubric that was more loosely based on the standards. However, application of this rubric to student products (papers and projects that used information technology) yielded unsatisfactory results. The scoring team found that they were able to get some sense of students' abilities to write research papers, but it was very difficult to get a sense of the internal process that the students were using to seek, evaluate, and synthesize information. They were not able to evaluate student final products against features of the Standards that related to these processes.

In 2002, it was decided to temporarily abandon statewide efforts to devise a uniform set of Information Literacy standards, and to instead allow a period of time for individual campuses to locally explore means of assessing information literacy.

Besides the impetus from State accountability and HB 2375, Evergreen's accrediting body also includes standards that require us to ensure that our students obtain skills in communication, critical analysis, and literacy in the technology appropriate to the program of study. Finally, Evergreen's own

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[2] In an early draft the legislation targeted technology assessment, but the colleges argued for the broader outcome of information-technology literacy, since they felt strongly that the ability to use technology should include mindfulness about that use: such things as critical thinking, evaluation, and research strategies.

Expectations of an Evergreen Graduate implicitly require ITL, particularly the expectations that graduates demonstrate:

- effective and creative communication,
- integrative, independent, and critical thinking
- the ability to apply qualitative, quantitative, and creative mode of inquiry appropriate to problems across disciplines, and
- at the culmination of their education, demonstrate depth, breadth, and synthesis of learning and the ability to reflect on the significance of that learning.

An Evergreen Information Technology Literacy (ITL) assessment study group (Laura Coghlan, Ernestine Kimbro, Lee Lyttle, John McGee, David Marshall, Sarah Pedersen, and Julian Pietras, with consultation on structural research questions by Rita Pougiales) began meeting in the Fall of 2002 to further develop assessment of ITL at Evergreen. In reviewing the ACRL Standards, we determined that our assessment must also look at the processes by which a student defines a need then accesses, critically examines, integrates, and presents information. Towards that end, we adopted a four-fold assessment approach:

1. an analysis of the ITL content of Evergreen's curriculum from End-of-Program Reviews;

2. a content analysis of "process-rich" student projects and products, recruiting from faculty known to assign a rich array of intermediate steps in research projects such a research question definition, annotated bibliographies, multiple drafts, etc.;

3. ITL learning gains, as self-reported from the NSSE, CSEQ, Evergreen student and alumni surveys; and

4. assessment of student process-oriented skills via a one-and-a-half day evaluative exercise involving two groups of Evergreen students.

We have now completed one full year's study of item #1. In the End of Program Review, faculty report their strategies for incorporating ITL into their programs and courses. We have collected these strategies for 2001-02 and have made them available to all faculty. We will be analyzing student products this Summer and over the next year for item #2. For item #3, we have recently added an expanded set of ITL-related questions to our alumni and student surveys and will have those results by next Fall. We also continue to track ITL-related items on the National Survey of Student Engagement, Evergreen New Student Survey, and Evergreen Student Experience Survey. Item #3 is intended to provide statistically representative measures of ITL that can be compared with other institutions in Washington and the nation.

Our primary effort this past year has been item #4, the assessment of process skills. We view the exercise as a means for setting up conditions for a useful conversation with participants about the processes of research question formation and exploration, and information gathering and synthesis. We view the students as co-researchers to help us uncover strengths and weaknesses of how Evergreen promotes ITL rather than as subjects of a skills assessment. We conducted a full pilot in February 2003 with Library student interns, and full-scale implementation with a group of senior students in May 2003. This report presents findings from both of these assessment exercises.

Description of Process Assessment Exercise

A brief description of the assessment exercise is given here. See the Appendix for a complete description, contained in a set of recruiting materials and guides for participants and facilitators.

Students were recruited and compensated for their participation. Each student brought questions related to their most recent major project, or another project that they retain a personal interest in, to a half-day exercise in designing and refining a specific research question based on the project. The following day, the students attempted to acquire the information needed to answer the question, gave a brief synopsis of what they learned, and participated in a debriefing session and free-write reflection at the end of the day. Their information-gathering and integration activities were monitored by observers and by software that recorded their computer use.

Each student kept a research binder with sections containing their research question and related notes, their research strategy outline, research log recording all activities not involving a computer (such as phone or in-person contacts for information), bibliography of sources found, the first page of any articles they gathered, and a free-write reflection of their response to the assessment exercise. The observers then met to review the student research records, paper and computer logs, bibliographies, and reflection papers to assess student ITL skills.

The assessment exercise was piloted (in February 2003), in slightly different form, with a group of Library student interns. The primary difference was that the pilot group was asked to go through the initial formulation of their research question as the first part of the half-day exercise (as described in the Invitation to Participants – see Appendix). During the later debriefing, several of the pilot participants expressed their feeling that coming up with a question on the spot seemed somewhat artificial. In response, the exercise was modified to include the initial formulation of the research question so that the participants could begin mulling over their research question well in advance of the actual days of the assessment. For the main group in May, the first day began with discussion of their questions in small groups of three to four students plus an observer/facilitator. Other than this change, the experience and results from the interns and the main group were so similar that the results from both groups are combined and discussed together in this report. The Library student interns who piloted the assessment exercise are hereinafter called 'interns,' and the group of senior students who participated in the later, revised exercise are called 'seniors.' The two groups are collectively referred to as 'participants' or 'students.'

The results of this assessment exercise are presented as a series of scorer observations, loosely grouped by the most related ACRL Standard. These observations were synthesized from all the sources of information detailed in the Appendix. Various common themes and issues emerged from our review of student and intern records.

Findings

Standard One: *The information literate student determines the nature and extent of the information needed.*

This standard relates to the ability to generate and refine a research question worth exploring, and the ability to develop a realistic and flexible strategy to find and retrieve the needed information. Our assessment exercise asked participants to develop a research question based on an area or project of current interest to them, avoiding the artificiality of a predefined research question. We know from research in teaching and learning that people learn best when internally motivated, and we wanted to

avoid the stilted if not stultifying atmosphere of assessments on questions unconnected to student interests. We also made use of Evergreen's style of collaborative teaching techniques by having the students 'seminar' together in small groups of three or four (plus a facilitator/observer) to share their research questions and strategies.

Through review of research logs, observation of small group discussions, and the final debriefing conversation and response paper, we found that participants were willing to push themselves into new research and disciplinary areas, and to modify or abandon their research questions in light of experience or feedback from peers:

> *"Listening to other participants comments I began to realize that where I was searching was very limiting."*

> *"... the research strategy I laid out for myself on Friday did not end up being the approach I used [on Saturday]."*

Most participants demonstrated considerable sophistication in their research questions and in their ability to synthesize and communicate information relevant to those questions. For instance, one student conceived of an interesting research question that, upon investigation, turned out to be an entirely new one for which no direct information or studies could be found. This student then reformulated the question in a way that allowed its investigation from a disciplinary perspective that was also new to the student. Through the course of the exercise, this student became interested in a new field of scholarship and intends to continue study in this field. Other students approached the exercise with an attitude of 'what can I find on the Web?' and during the course of the day refined and sharpened their questions to an impressive degree.

Observations during the small group activity (refining the research question) as well as participant comments during the debriefings testified to the value of peer feedback and interaction. A striking feature of research question formulation was the degree to which questions and planned search strategies were modified during the small group peer discussions. Many students expressed gratitude at the extent to which their peers were able to assist them:

> *"I found the entire group process to be very gratifying: I enjoyed listening to the ideas and projects of my peers as well as sharing my own work with other seniors, coming from a variety of backgrounds and disciplinary perspectives. Moreover, I received very productive feedback from my colleagues and from the facilitators and feel very lucky to be in an environment where ideas can be constructively shared and deconstructed."*

Standard Two: *The information literate student accesses needed information effectively and efficiently.*

Participants demonstrated an impressive level of persistence in their search for information, e.g. showing a willingness to venture into unfamiliar content areas and specialty databases. They showed an understanding of interdisciplinary 'gray areas' to an at times remarkable degree, finding disciplinary perspectives on their questions that were entirely new to them prior to participating in the exercise. In one example, a social sciences student ventured for the first time into the legal/justice databases and found what was needed. In another, a political economist found rich sources of information in the historical and sociological abstracts, sources previously unknown to this student.

> *"Through this study I learned a new way to find papers! I was finally introduced to the hardcopy science citation index, which has been very useful because most of the research done on my topic was published long ago."*

"Participating in this research exercise was useful to me in that it pushed me to maneuver in databases outside of my academic discipline."

Participant search *strategies* within a given source of information demonstrated several areas of weakness. The most typical search strategy they employed was to compose a string that essentially seemed to be an abstraction of their area of research interest, or even a statement of their research question with the articles ("of," "the," "an") removed. In one case, after getting zero hits from a particular database using a long search string, the student *added* additional words to the string (and again obtained zero hits). Only one of the students used anything other than a simple search (a single text string with no Boolean operators). While this student used an advanced search tool with multiple AND's in a familiar database, the student reverted to less efficient schemes in unfamiliar data bases. No students used truncated terms with wildcards. Modification of a failed search was extremely rare.

The students tended to use an identical search string in all information sources or search engines, and tended to start with the most global method (e.g. using the Google search engine) even if their research question and area were already sharply defined. They would almost always change search terms entirely rather than modifying them when obtaining zero or very large numbers of 'hits.' A single search string was often repeated in all search venues, from Google to specialized academic databases. The typical result was either zero or thousands of hits. The typical response to the result of zero hits was either to abandon the search venue entirely and try the same string in another, or to shorten the search string until thousands of hits were obtained. In one case, after repeated failed searches with zero hits using full article titles from a bibliography, a student entered one of the author's (rather common) name into Google and obtained in excess of 250,000 hits.

When faced with thousands of hits, the students either abandoned the search or scrolled down the first few pages of the hits. Participants often seemed to sacrifice a thorough understanding of information available in a carefully defined area for a 'my bucket is full' approach: stopping the retrieval of 'hits' partially through a long list obtained from a wide search, rather than either refining search criteria to sharpen the list of material or conducting a complete review of all information available. (In one case, the student's research log indicated that they were doing this deliberately in the interests of time and because they had already made a comprehensive search elsewhere.) This sometimes yielded some relevant results, but the sense one gets in reviewing many of these records is that there was little or no effort to refine the field of information, to use relevancy scores to judge usefulness, or to get a sense of the range of information available. A few of the interns did use more elaborate search methods: use of Boolean AND's, modification of search terms, expansion and truncation of search strings, restriction of search areas by time or types of sources, use of wildcard characters within search strings, etc. While the interns did seem in general to have a more targeted, focused, and comprehensive approach, the weaknesses noted above were also observed in many of their search records.

In conclusion, although most participants demonstrated a deep structural understanding of their research area, they often showed a surface understanding of online resources: their search strategies rarely utilized anything other than a simple string search, without Boolean operators. Their structured, relational understanding of their research area did not seem to map onto a structured, relational understanding of online resources. They seemed to have a naïve view of online searching that expected intelligence on the part of the search engines and databases: expecting the computer to puzzle out unarticulated aspects of a question. While their initial thinking was clearly question-centric, actors with information, their search strategy weaknesses at times drove them back into being information-centric, consumers of information.

"I stopped and gave up on potentially very valuable survey statistics when I exhausted the methods of searching that I usually do."

Standard Three: *The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.*

Bibliographic citations were accurate and complete, and several participants demonstrated a keen awareness of the importance of verifying information and tracing 'facts' to their primary sources, e.g., making a substantial effort to follow a quotation to its original appearance.

Most participants had an excellent overall command of their research areas, as evidenced by their ability to judge when they reached dead ends in their searches when the lack of information was due to inadequacies in their search methods, vs. information in that area simply not being available online, vs. that the relevant research has not yet been conducted to answer their question:

"… this research topic re-iterated to me how you can't find everything you need on the internet or even in the library. There was definitely plenty of information that would probably have been incredibly helpful to my search today that was simply not available on-line…"

Participants seemed to have a good command of their disciplines, yet were open to new perspectives:

"I was interested to see the wide range of groups, organizations, and institutions that spoke to my topic, and in what ways they approached and/or discussed it, as opposed to narrowing myself to those sources that I already know and use frequently… it was refreshing to spend the day exploring other sources that offer conflicting and/or contradictory perspectives."

Many participants had developed means of assessing the quality of online information, e.g., telling us that they do not trust sites that charge for papers, or that they used to trust .edu or .org sites but not any more. We discovered in the debriefing that none of the students were aware of Citation Index as a means of tracking the evolution of ideas or of gaining a general sense of the quality and reliability of a particular research finding.

Standard Four: *The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.*

During the exercise, many students used personal contacts to obtain information: personal visits with experts on campus, phone calls, and e-mail requests for information. One benefit of Evergreen's emphasis on collaborative learning is helping students see themselves as members of a larger community of scholars, and to help them overcome internal barriers to reaching out:

"An observation that I had made of my research strategies before doing this exercise was that I would rather talk to people for information than sit in front of a book or computer to find it."

"I'd say one of the more important things I learned in my 3 years doing research at TESC is that you shouldn't be afraid to call or e-mail people who are working on what you're researching – I've had very fruitful email correspondences and phone conversations in the past with various individuals and academics on different topics."

The final products that were available to us indicated an impressive level of achievement. Research papers and web sites were of high quality. The focus of this exercise was on process, so extensive product analysis was not attempted for this report. We will include analysis of student products in other related assessment activities.

Standard Five: *The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.*

Our discussions with students did not reveal any ethical or legal problems with their use of information, nor did any of the facilitators suspect any issues of this nature. However, this assessment is by design not likely to reveal any, given the extensive monitoring that was used.

Student Response to the Exercise

Students and facilitators alike found this assessment exercise to be useful and engaging. By treating the students as co-participants we were able to overcome much of the usual resistance to assessment, and shift the focus from judgements of worth to a co-exploration of process. By working together, we mutually became aware of some strengths and weaknesses of how ITL is taught and learned at Evergreen.

> *"I appreciated the non-hierarchical approach to the project employed by the group from Assessment, and their explicit statement that the students were not there as guinea pigs or as objects of a study, but were there as co-researchers. At all times I sensed a mutually respectful and interested dynamic at work in the group, a characteristic of much of my experiences at Evergreen that cannot be determined by analyzing statistical information or averaging test scores, etc., and can only be learned and practiced in environments conducive not only to the production of academic work, but also the cultivation of reflexivity and critical thinking skills."*

> *"I had a very productive day. This has been a great opportunity for me to reflect on the skills and abilities I have learned as a student at Evergreen."*

> *"Thank you for the motivation to get this done."*

Implications and Next Steps

The principle message to faculty from this assessment exercise is that Evergreen students may show some deficiencies in their understanding and efficient use of online resources. Their at times exemplary knowledge of their disciplinary area(s) does not seem to carry over into a knowledge of online resources specific to their discipline, nor to how best to go about seeking information in their field(s). A very clear idea of one's research question helps but does not in itself guarantee the ability to apply adequate information search and retrieval methods. Faculty may want to assess students' abilities to obtain information and offer tutorials or refer students to the Library when deficiencies are detected. The genuinely positive and enthusiastic response of the participants to this exercise reaffirms that educating students about research methods works best when imbedded within subject areas and research questions of direct and immediate interest to them.

For assessors, the multiple sources of information utilized in this exercise revealed that assessors without knowledge of the relevant disciplinary areas would not and could not know about informational gaps in the final products of research, but these gaps can be detected by non-specialists upon careful and detailed examination of information search histories.

Finally, talking with students about their response to the assessment exercise was at least as valuable as the observations and records from the exercise itself, underscoring the primary importance of viewing the exercise as a collaborative ITL research project rather than a measurement of skills. In the end, we feel the principal value of this exercise was that it set up the conditions for a useful conversation with students about the process of ITL at Evergreen. We intend to repeat this study next year with a group of freshmen, to investigate the developmental aspects of ITL at Evergreen.

Further Information

For an example of student work from two of the participants in our assessment exercise, see: www.users.qwest.net/~shaffordleeah/   Their web site on Feminist Studies in Political Economy contains information they gathered prior to and during the assessment exercise. They welcome your feedback on their site.

For additional information about general education and its assessment at Evergreen, or to contact us, please see our web site: www.evergreen.edu/institutionalresearch/.

Appendix – Handouts to Participants and Facilitators

Information Literacy Assessment Project – Invitation to Participants

Hi! The college is conducting a 1½ day study of our graduating students. We want to better understand their approach to conducting research that is meaningful to them, now and in their post-Evergreen years. You have been nominated by the faculty as a graduating senior who has completed a research project that made effective use of information technology. **We will pay you $100 to participate in a study** and hope you will join us. The exercise is designed to let us observe how you do research. This includes;

- how you determine the nature and extent of the information you need,
- how you access the information that you need including the selection of the technology that would help you do this,
- how you evaluate the information you find and its sources,
- how you approach the use of information to accomplish a specific purpose, and
- how you understand many of the economic, legal, and social issues surrounding the use of the information.

This is not a test.   It is the college's effort to gain information about how our graduating students find and manage information including their ability to use the technologies that help them do this. As part of this assessment, we would also like to examine your research project (paper, art work, portfolio, etc.) as an example of your finished work. Please bring your project with you to the first day of the exercise. (If you will be completing your research project later this Spring quarter, we will need to examine it when it is done.)

The session will be held at the end of week 7 of Spring quarter, **on Friday, May 16th from 1-4pm**, and on **Saturday, May 17th from 9-4pm**.   If you are interested please contact David Marshall at 867-6567 or Laura Coghlan at 867-6676.

Before May 16th, you can (at your option) prepare ahead of time by thinking about a research question that you'd like to spend the session investigating. You may use the session to do research on an existing or new research question. One useful way to start is to think back on some recent idea or area of study that you've been involved with, and then do a 15-20 minute freewrite on either:

> A. *What was the last significant and meaningful research project that you worked on while at Evergreen? Do you have any unfinished thinking about this work?   What more would you explore if you had the time?*
>
> <div align="center">OR</div>
>
> B. *What __new__ issue would you like to research?   What are the questions that intrigue you about this issue?*

Read over what you have written. Underline the sentences or phrases that have the most interest or energy for you. Pick a section you would want to think about more. Describe it in more detail. What makes it interesting? What are the dilemmas you find in it? Is there an element that is mysterious or puzzling to you? What about it represents something you want to know more about? Try to formulate a series of research questions around it. Our half-day session on Friday will begin with a small group seminar where you will have an opportunity to discuss your ideas with your peers to help refine your question and share research strategies.

Participant's Guide
ITL Assessment Exercise

The assessment exercise is in two parts: a half-day exercise to help define or refine a research question, followed by a full day of exploring, gathering, synthesizing, and presenting information that attempts to answer the research question.

Research Workshop (Half Day)

Introduction

Prior to this session, you should have had an opportunity to do some thinking and writing about a research question and some possible research strategies. After we provide a general introduction to this assessment project to explain its purpose and its historical and political context, you will refine your research question and research strategy as follows:

1. In a small group (3-4 participants plus a facilitator), share your research questions with others. Help to clarify the context within which each other's question exists. Your question should go beyond mere matters of fact or pure opinion. Explore the assumptions that are implied in your question. Suggest aspects of each other's questions that might be added or modified to help each other gain a fuller understanding of each area of research.

2. For the next 15-20 minutes write or re-write your research question(s) in as clear a way as you can. Tomorrow you will have the chance to pursue one or two of these questions. Pick the ones which you <u>can</u> research—where you assume there is previously compiled data or analyses that addresses your question. With this in mind select your question(s) deliberately. You may find that you want to rewrite your questions so that they are researchable within the time allotted.

3. Next outline your research strategy. What sources of information will you go to? What kind of data do you need? Whose input, opinions, and help will you seek? You will be required to keep a journal that not only delineates the process you followed but also a bibliography of useful material that you could not spend a lot of time on.

Information Gathering Session (Full Day)

I.   9:00 – 9:30 Introduction and refreshments

II.   9:30 – 3:00 Information gathering

        Note: We will expect you to have your research results organized and ready for discussion by the time the debriefings begin at 3:00 PM.

III.   3:00 – 4:00 Debriefings in several sub-groups. If time permits, begin writing reflection.

IV.   Due by Tuesday, May 18th: A one page reflection paper on your experience during this assessment exercise (see description below). Payment for your participation will be processed once we have received your paper.

Assessment

The assessment of your efforts will be based on a review of your research questions, bibliography of sources, research records, activity logs and field notes, answers to questions we will ask at the debriefings, review of your reflection paper, and a summary assessment based on the following Information Literacy standards:

Standard 1: The information literate student determines the nature and extent of the information needed.

Standard 2: The information literate student identifies a variety of types and formats of potential sources for information.

Standard 3: The information literate student synthesizes main ideas to construct new concepts.

Standard 4: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

Standard 5: The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Bibliographic information need not be in any particular format, but you should be sure to record all the appropriate elements needed for constructing complete citations later. In particular, make sure you fully document any contacts made or information obtained off-line.

In the reflection paper, please address the following questions: Was this exercise useful to you, and in what way(s)? Did it change the way you think about or do library research? Where did you learn to apply the research strategies that you used? Did you gain any personal insights about how you approach asking and investigating research questions? If so, what were they?

Facilitator's Guide
ITL Assessment Exercise

The assessment exercise is in two parts: a half-day exercise to define a research question, followed by a full day of exploring, gathering, synthesizing, and presenting information that attempts to answer the research question. Participants will be recruited through contacting the faculty and asking for nominations of students who have completed a research project that made effective use of information technology. The participants will be asked to bring the research project (paper, art work, portfolio, etc.) with them to the exercise. Participants will be given pads of paper and binders with tabs for research question development records, search contact logs, bibliographies, and research results.

Prior to Exercise

Participants will have been instructed to begin thinking about possible research questions, and encouraged to do a freewrite and revision prior to discussion in small groups.

Research Workshop (Half Day)

Introduction – why we are doing this assessment and what the results will be used for; confidentiality.

4. Small Group work – here, the facilitator attempts to promote the elucidation of 'deep structural questions' by employing the Structural Questions strategies (providing disparate examples of phenomena, new factors, shifts of context, conceptual distinctions, etc. – see Structural Questions handout). Do not be overly directive; insert these strategies into the small group discussions if you feel the participants are stuck or their interest is lagging.

5. Research Question Rewrite – do not help in the selection of the researchable question, as the ability to do this is part of the assessment.

6. Outline of Research Strategy – again, do not guide development of the content of this, but simply clarify what elements of information are needed (if asked).

Information Gathering Session (Full Day)

Schedule:

V.   9:00 – 9:30 Introduction and refreshments

VI.   9:30 – 3:00 Information gathering & organization of results

> *Note*: We will expect the participants to have their research results organized and ready for discussion by the time the debriefings begin at 3:00 PM.

VII.   3:00 – 4:00 Debriefings in several sub-groups

We will use the introductory session to hand out any checklists or logging templates for the participants to use, emphasize that any off-line information be fully documented, lay out any ground rules such as restrictions on which computers to use and if they should stay on campus, announce debriefing

locations, and indicate who they can turn to for help with their work or for technical problems. Bibliographic information need not be in any particular format, but students should be sure to record all the appropriate elements.

Ask each participant to provide the following during the debriefings:

✓ A brief synopsis (5 minutes or less) of their research question and the results of their search –what answers and/or indications of new directions did they find?

✓ Their bibliography – it can be very rough; with annotations, citations cut and pasted from sources, etc.

✓ A brief discussion of how they would present the results to an outside audience most effectively, if they had the time to design a more formal presentation.

✓ A report of any obstacles or problems they encountered during their search, as well as any search techniques or sources of information they found particularly fruitful.

✓ An indication of where they would go from here if they had more time – how would they extend the research if they had a month, a year, or several years to pursue the question? What other types of research methods might they employ (e.g., laboratory experiments, field work, oral histories, installations)?

The entire assessment team will need to be available for the introduction and debriefings, and some members of the team available for parts of the remainder for purposes of incidental monitoring, advice and trouble-shooting. Our assessment will include a review of the research questions; review of bibliography of sources, research records, activity logs and field notes; a debriefing; review of the reflection paper which participants will hand in within a few days of the exercise; and a summary assessment after the exercise where we determine any final ratings of the participant efforts.

Assessment

Assessment ideas based on the ACRL standards follow. Our assessment rubric could be as simple as a 'yes-no-somewhat' checklist of each of the five ACRL standards:

Standard 1: The information literate participant determines the nature and extent of the information needed.

Assessed via examination of products from the half-day monitored workshop on developing a research question, and responses to questions about future research from the debriefings.

Standard 2: The information literate participant identifies a variety of types and formats of potential sources for information.

The Camtasia computer monitoring software will be used to help examine this standard. Our assessment will consist of reviewing the Camtasia records and participant logs of all information-gathering contacts other than those involving computers, plus answers to debriefing questions.

[We will use a more detailed checklist for this part of the assessment, based on applicability of sources to the question, focus/efficiency of information gathering, variety of sources explored, reliability/quality of sources used, differentiation between primary and secondary sources, identification of missing information (gaps in knowledge pertinent to the question).]

Standard 3: The information literate participant synthesizes main ideas to construct new concepts.

Assessment of this standard is logically divisible into two components: use of computer tools to synthesize/collate/prepare for the presentation, monitored by the Camtasia software, and a judgment of synthesis, primarily based on evaluation of the previously-completed research project that the participant brought to the exercise, and secondarily on questions during the debriefing.

Standard 4: The information literate participant, individually or as a member of a group, uses information effectively to accomplish a specific purpose.

This will also be gauged primarily from an evaluation of the previously-completed research project. Secondarily, we can observe if there is evidence through the software recordings and/or their logs or journals of a creative, flexible approach to changing direction in response to the information obtained.

Standard 5: The information literate participant understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Did the participant give the appropriate citations for their sources of information? Do other concerns about the appropriate retrieval and use of information arise through examination of the search records and observation of the presentations?