The planning and implementation of program-based assessment at Washburn University is guided by the goal to be able to answer four fundamental questions:

1) What are we trying to do in terms of student learning?
2) How well are we doing?
3) Using the answers to questions 1 and 2, how can we improve?
4) How are we sharing the knowledge gained with our constituents?

Program student learning objectives are measurable and characterize what we want our students to know, to think and care about, or to be able to do.

Program assessment plans have been developed to include both direct (students demonstrate) and indirect (students or other reflect) measures. To the extent possible, the learning objectives have been linked to the appropriate curriculum (see Matrix of SLOs), and an assessment cycle has been established.

UNIVERSITY LIBRARIES

Based on the nature of the curriculum, departments may have multiple annual reports.

MISSION (Student learning outcomes should be consistent with department/mission statement)

The Washburn University Libraries are teaching libraries, dedicated to student success and the development of a learning community which effectively, efficiently, and ethically uses information in the 21st century.

We do not explicitly list our student learning outcomes in our mission statement, and yet they are clearly expressed by the phrase “effectively, efficiently, and ethically uses information in the 21st century.” This is the essence of the definition of information literacy from the Association of College & Research Libraries’ Information Literacy Competency Standards for Higher Education.

Major/Specialization/Concentration Being Assessed

Information Literacy

Assessment Period Covered by this Report

July 2011 – June 2012

SUMMARY

Learning outcomes are assessed using pre-tests, post-tests, and final projects aligned with the ACRL’s Information Literacy Competency Standards for Higher Education (included at the end of this report). The outcomes as we have expressed them here are actually the ACRL’s five broad information literacy objectives, each of which has 4-7 performance indicators with 3-5 learning outcomes each. As a result, the ACRL standards contain 87 student learning outcomes for the information literate student. This is far too many to teach and assess in a one-credit hour course, so we teach and assess the outcomes for each objective that provide the best foundation for Freshman Information Literacy and which are, therefore, vital to student success at Washburn. These outcomes will be defined in this report for each of our five broad learning objectives. Library faculty teach and assess additional
learning outcomes in their individual classes, but they are not assessed the same across all sections and are therefore not included in this report.

Pre-test and post-test questions are reviewed annually and revised as needed based upon assessment results.

This report covers IS-170 (Library Research Strategies) only. IS-110/WU-101 (Washburn Experience/FYE) will be assessed separately by the Center for Student Success.

Submitted by (Kelley A. Weber, Assessment Librarian)
(June 30, 2011)
OUTCOME 1 (State Student Learning Outcome)

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

The ACRL performance indicators and learning outcomes we assess across all sections in our pre- & post-tests under this broad objective are:

1. The information literate student defines and articulates the need for information.
   **Outcomes Include:**
   a. Develops a thesis statement and formulates questions based on the information need
   b. Explores general information sources to increase familiarity with the topic

2. The information literate student identifies a variety of types and formats of potential sources for information.
   **Outcomes Include:**
   a. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)

3. The information literate student considers the costs and benefits of acquiring the needed information.
   **Outcomes Include:**
   a. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)

4. The information literate student reevaluates the nature and extent of the information need.
   **Outcomes Include:**
   a. Reviews the initial information need to clarify, revise, or refine the question

Outcome 1a: Means of Assessment & Criteria for Success

Outcome #1 was assessed in questions 2, 4, 8, 12, 15, 19 & 20 on the 20-question pre/post-test given across 10 sections of IS-170 in Fall 2010 and 8 sections in Spring 2011. Our goal is to see an increase from the pre-test to the post-test in the average mean score for this standard as a whole as well as an increase in the mean average for each question. In addition, outcome #1 is assessed by the final grades for the course; the goal is to have 70+% of students pass the course with a grade of C or better.

Outcome 1b: Assessment Results

A summary chart of the assessment averages for the pre/post-test, and the final grades across learning outcomes 1, 2, 3 & 5 is attached (learning outcome 4 is assessed through the final project and is detailed separately).

In Fall 2011 IS-170 classes, the overall averages for the pre/post test scores for the seven questions measuring outcome #1 rose from 52.4% on the pre-test to 68.5% on the post-test (+16.1%); in Spring IS-170 classes, the overall average rose from 64.2% on the pre-test to 76.8% on the post-test (+12.6%), for an overall average for the school year on the post-test of 72.7% - exceeding our 70% benchmark.
Additionally, 71% of IS-170 students in Fall 2011 received a grade of C or better, and 73% of IS-170 students in Spring 2012 received a grade of C or better, for an annual average of 72%, above our benchmark.

Outcome 1c: Use of Results

While the overall average for outcome #1 did go up significantly on the post-test, results for question #2 by itself went down between the pre-test and post-test from 47.8% to 21.4% in Fall 2011 and from 41.6% to 22.6% in Spring 2012 -- an average drop of 22.7% across both semesters. The teaching librarians met to discuss this result. We concluded that the problem is in the question itself.

Question 2 as it was given Fall 2011/Spring 2012:

You are assigned to do a research paper on a topic unfamiliar to you. Which of the following sources is the best place to obtain a scholarly overview of the topic?

a. An electronic encyclopedia (correct answer)

b. Wikipedia

c. A peer-reviewed article

d. A monograph

We tell students that Wikipedia is not a scholarly source and they know that it is a type of electronic encyclopedia. We surmise they, therefore, concluded that both “A” and “B” were incorrect. The most common incorrect answer was “C,” so we believe students saw “peer-reviewed article” and thought it must be correct since we stress the importance of using scholarly works for their research throughout the semester. At this time, we want only to change the answer choices students will have to the following:

a. An encyclopedia

b. Wikipedia

c. A journal article

d. A monograph

Outcome 1d: Mechanisms for Sharing Results

The pre/post-tests are given electronically via the Angel Learning Management System and tied to the gradebook so instructors can confirm that each student showed an improvement from pre-test to post-test. The Assistant Dean of Libraries collects the pre/post-test reports generated by Angel each semester and tabulates them into a spreadsheet. She looks for patterns of success for each instructor. The spreadsheet is then shared with all teaching librarians without reference to individual names of instructors. The Assessment Librarian calculates the averages for each question and for each learning outcome. This is also shared with all teaching librarians. The teaching librarians meet once a week during the summer months to discuss these assessments.

In addition, our assessments (including these reports) are available to anyone to review through Mabee Library’s wepage on Strategic Planning (http://www.washburn.edu/mabee/strategic_plan/index.shtml).
OUTCOME 2 (State Student Learning Outcome)

The information literate student accesses needed information effectively and efficiently.

The ACRL performance indicators and learning outcomes we assess across all sections in our pre- & post-tests under this broad objective are:

1. The information literate student constructs and implements effectively-designed search strategies.
   
   **Outcomes Include:**
   
   A. Identifies keywords, synonyms and related terms for the information needed
   
   B. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)

2. The information literate student retrieves information online or in person using a variety of methods.
   
   **Outcomes Include:**
   
   A. Uses various search systems to retrieve information in a variety of formats
   
   B. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration

3. The information literate student refines the search strategy if necessary.
   
   **Outcomes Include:**
   
   A. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized
   
   B. Identifies gaps in the information retrieved and determines if the search strategy should be revised
   
   C. Repeats the search using the revised strategy as necessary

4. The information literate student extracts, records, and manages the information and its sources.
   
   **Outcomes Include:**
   
   A. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources
   
   B. Records all pertinent citation information for future reference

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**Outcome 2a: Means of Assessment & Criteria for Success**

Outcome #2 is assessed in questions 7, 9, 12, 13, 14, 17 & 18 on the 20-question pre/post-test given across 10 sections of IS-170 in Fall 2010 and 8 sections in Spring 2011. Our goal is to see an increase from the pre-test to the post-test in the average mean score for this standard as a whole as well as an increase in the mean average for each question. In addition, outcome #1 is assessed by the final grades for the course; the goal is to have 70+% of students pass the course with a grade of C or better.

**Outcome 2b: Assessment Results**

A summary chart of the assessment averages for the pre/post-test, and the final grades across learning outcomes 1, 2, 3 & 5 is attached (learning outcome 4 is assessed through the final project and is detailed separately).
In Fall IS-170 classes, the overall averages for the pre/post test scores for outcome #2 rose from 50.0% on the pre-test to 61.4% on the post-test (+11.4%); in Spring IS-170 classes, the overall average rose from 58.4% on the pre-test to 79.1% on the post-test (+20.7%), for an average for the school year on the post-test of 70.3% - exceeding our 70% benchmark.

Additionally, 71% of IS-170 students in Fall 2011 received a grade of C or better, and 73% of IS-170 students in Spring 2012 received a grade of C or better, for an annual average of 72%, above our benchmark.

Outcome 2c: Use of Results

We noticed during our assessment process that question #13 had been mapped to outcome #2, but did not actually measure that outcome. It was actually a question used in 2010-11 for the IS110/WU101 classes measuring their knowledge of Washburn University. We have, therefore, changed this question entirely and decided that it should measure outcome #5 since we have only one other question measuring that outcome.

Question #13 will now read:

Is it legal for you to use information found on the Internet?
   a. Yes, it is from the web where all information is in the public domain.
   b. Yes, if the creator of the information gives permission and you cite your source.
   c. Yes, if you alter the information.
   d. No, it is not legal for you to use information found in the Internet.

Outcome 2d: Mechanisms for Sharing Results

See comments for Outcome 1d.
OUTCOME 3 (State Student Learning Outcome)

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

The ACRL performance indicators and learning outcomes we assess across all sections in our pre- & post-tests under this broad objective are:

1. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.
   
   Outcomes Include:
   A. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias
   B. Recognizes prejudice, deception, or manipulation

2. The information literate student determines whether the initial query should be revised.
   
   Outcomes Include:
   A. Determines if original information need has been satisfied or if additional information is needed
   B. Reviews search strategy and incorporates additional concepts as necessary
   C. Reviews information retrieval sources used and expands to include others as needed

Outcome 3a: Means of Assessment & Criteria for Success

Outcome #3 is assessed in questions 3, 5, 6, 10, 11, & 16 on the 20-question pre/post-test given across 10 sections of IS-170 in Fall 2010 and 8 sections in Spring 2011. Our goal is to see an increase from the pre-test to the post-test in the average mean score for this standard as a whole as well as an increase in the mean average for each question. In addition, outcome #1 is assessed by the final grades for the course; the goal is to have 70+% of students pass the course with a grade of C or better.

Outcome 3b: Assessment Results

A summary chart of the assessment averages for the pre/post-test, and the final grades across learning outcomes 1, 2, 3 & 5 is attached (learning outcome 4 is assessed through the final project and is detailed separately).

In Fall IS-170 classes, the overall averages for the pre/post test scores for outcome #3 rose from 62.5% on the pre-test to 67.0% on the post-test (+4.5%); in Spring IS-170 classes, the overall average rose from 70.2% on the pre-test to 82.5% on the post-test (+12.3%), for an average for the school year on the post-test of 74.8% - exceeding our 70% benchmark.

Additionally, 73% of IS-170 students in Fall 2011 received a grade of C or better, and 83% of IS-170 students in Spring 2012 received a grade of C or better, for an annual average of 78%, above our benchmark.
Outcome 3c: Use of Results

While the overall average of IS-170 scores for outcome #3 did go up on the post-test, we noticed issues with questions 10 and 16. Question 10 was answered correctly by 100% of the students on the pre-test, which means it is a topic we do not need to cover or address in the classroom. We have, therefore, decided to rewrite the question entirely. The original question #10 was:

The following Internet address - http://www.washburn.edu/main/current-students/index.html - indicates that the site is maintained by
   a. government agency
   b. a school, college, or university
c. an organization
d. a company

In order to measure the same learning outcome, we decided to use the following question to replace it.

You need new tires on your car and you want to make sure you are buying a safe set of tires. You have found several sources. Which webpage would be likely to have the most objective information?
   a. www.safercar.gov/Tire
   b. www.goodyear.com
c. www.forthethepeople.com/automobile_safety.htm
d. www.mallbusinessmagazine.net/newsdatabase/?cost-effective-and-affordable-car-tires

For question #16, we noted a drop in scores between the pre-test and post-test across all sections of IS-170. Scores went from an average of 0.8 to an average of 0.7. It is not much of a drop, but we decided to evaluate the question.

Which of the following characteristics identifies a credible author?
   a. uses biased and inflammatory language
   b. relies on charts and graphs
c. supports assertions with facts
d. limits citations because the author is knowledgeable

The most common incorrect answer was “D,” probably because we added the information that “the author is knowledgeable,” which they could perceive as a measure of the author’s authority and credibility. We, therefore, are changing the answer choices to the following:

Which of the following characteristics identifies a credible author?
   a. uses biased and inflammatory language
   b. relies on charts and graphs
c. supports assertions with facts
d. limits citations

Outcome 3d: Mechanisms for Sharing Results

See comments for outcome 1d.
OUTCOME 4 (State Student Learning Outcome)

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

The ACRL performance indicators and learning outcomes we assess across all sections with the final project under this broad objective are:

1. The information literate student applies new and prior information to the planning and creation of a particular product or performance.
   Outcomes Include:
   A. Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance

2. The information literate student communicates the product or performance effectively to others.
   Outcomes Include:
   A. Uses a range of information technology applications in creating the product or performance
   B. Incorporates principles of design and communication
   C. Communicates clearly and with a style that supports the purposes of the intended audience

Outcome 4a: Means of Assessment & Criteria for Success

Outcome #4 is assessed through the final project and final course grades. The final project is worth 25% of the class grade in all sections. Also, students are REQUIRED to turn in a final project; they automatically receive a grade of “F” if they do not submit one (which accounts for most of the F’s). All instructors make sure each student is aware of the significant impact the final project will have on their grade. Instructors differed as to what type of final project they used - final projects for 2011/12 included: a research paper, a comparison of sources, an annotated bibliography, or an individual or group presentation. Some gave the students a choice as to which type of project they could turn in, others gave them a specific assignment. All required a correctly formatted (MLA or APA) reference list of scholarly sources.

Outcome 4b: Assessment Results

In Fall IS-170 classes, 73% of students received a grade of C or better on the final project; in Spring IS-170 classes, 82% of students received a grade of C or better on the final project - for an annual average of 77%.

Additionally, 73% of IS-170 students in Fall 2011 received a grade of C or better, and 83% of IS-170 students in Spring 2012 received a grade of C or better, for an annual average of 78%, above our benchmark.
Outcome 4c: Use of Results

As stated above, the final project is a major portion of a student’s grade. Our master syllabus for IS-170 clearly states that students will receive a grade of F if they do not turn in a final project or if they miss more than four classes. In addition, each instructor makes sure these policies are discussed and understood in class. Almost all of the F’s given in this academic year were to students who simply did not turn in a final project. Two students requested and received incompletes in order to have a chance to do their final project. This policy is not being revised at this time.

Outcome 4d: Mechanisms for Sharing Results

The grades for the final project and the overall course are entered into the gradebook in the Angel Learning Management System. Each semester, instructors send their data (# of students in each section and the # of students who received grades of A-C and D-F) to the Assessment Librarian who calculates the averages. This information is shared with all teaching librarians, without reference to individual names of instructors. The teaching librarians meet once a week during the summer months to discuss these assessments.

In addition, our assessments (including these reports) are available to anyone to review through Mabee Library’s wepage on Strategic Planning (http://www.washburn.edu/mabee/strategic_plan/index.shtml).
OUTCOME 5 (State Student Learning Outcome)

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.

The ACRL performance indicators and learning outcomes we assess across all sections in our pre- & post-tests under this broad objective are:

1. The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology
   Outcomes Include:
   A. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material

2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.
   Outcomes Include:
   A. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own

3. The information literate student acknowledges the use of information sources in communicating the product or performance.
   Outcomes Include:
   A. Selects an appropriate documentation style and uses it consistently to cite sources

Outcome 5a: Means of Assessment & Criteria for Success

Outcome #3 is assessed in question 1 on the 20-question pre/post-test given across 10 sections of IS-170 in Fall 2010 and 8 sections in Spring 2011. Our goal is to see an increase from the pre-test to the post-test in the average mean score for this standard as a whole as well as an increase in the mean average for each question. In addition, outcome #1 is assessed by the final grades for the course; the goal is to have 70+% of students pass the course with a grade of C or better.

Outcome 5b: Assessment Results

A summary chart of the assessment averages for the pre/post-test, and the final grades across learning outcomes 1, 2, 3 & 5 is attached (learning outcome 4 is assessed through the final project and is detailed separately).

In Fall IS-170 classes, the overall averages for the pre/post test scores for outcome #5 rose from 67.6% on the pre-test to 84.8% on the post-test (+17.2%); in Spring IS-170 classes, the overall average rose from 83.7% on the pre-test to 95.5% on the post-test (+11.8%), for an average for the school year on the post-test of 90.2% - exceeding our 70% benchmark.

Additionally, 73% of IS-170 students in Fall 2011 received a grade of C or better, and 83% of IS-170
students in Spring 2012 received a grade of C or better, for an annual average of 78%, above our benchmark.

Outcome 5c: Use of Results

While only one question assesses outcome #5, it is clear this outcome is being well covered in class and students understand the concept. As noted in Outcome 2c, we will be adding another question in Fall 2012/Spring 2013 to measure this outcome.

Outcome 5d: Mechanisms for Sharing Results

See comments on outcome 1d.
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**FALL 2011**

**Spring 79%**

**Fall 71%**

**Total A-B-C average 72%**

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**SPRING 2012**

**Fall 73%**

**Spring 82%**

**Total A-B-C average 72%**
ACRL INFORMATION LITERACY STANDARDS
(http://www.ala.org/acrl/standards/informationliteracycompetency)

Learning Objective One

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

Performance Indicators:

2. The information literate student defines and articulates the need for information.
   **Outcomes Include:**
   A. Confers with instructors and participates in class discussions, peer workgroups, and electronic discussions to identify a research topic, or other information need
   B. Develops a thesis statement and formulates questions based on the information need
   C. Explores general information sources to increase familiarity with the topic
   D. Defines or modifies the information need to achieve a manageable focus
   E. Identifies key concepts and terms that describe the information need
   F. Recognizes that existing information can be combined with original thought, experimentation, and/or analysis to produce new information

2. The information literate student identifies a variety of types and formats of potential sources for information.
   **Outcomes Include:**
   A. Knows how information is formally and informally produced, organized, and disseminated
   B. Recognizes that knowledge can be organized into disciplines that influence the way information is accessed
   C. Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book)
   D. Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)
   E. Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline
   F. Realizes that information may need to be constructed with raw data from primary sources

3. The information literate student considers the costs and benefits of acquiring the needed information.
   **Outcomes Include:**
   A. Determines the availability of needed information and makes decisions on broadening the information seeking process beyond local resources (e.g., interlibrary loan; using resources at other locations; obtaining images, videos, text, or sound)
B. Considers the feasibility of acquiring a new language or skill (e.g., foreign or discipline-based) in order to gather needed information and to understand its context
C. Defines a realistic overall plan and timeline to acquire the needed information

4. The information literate student reevaluates the nature and extent of the information need.

Outcomes Include:
A. Reviews the initial information need to clarify, revise, or refine the question
B. Describes criteria used to make information decisions and choices

Learning Objective Two

The information literate student accesses needed information effectively and efficiently.

Performance Indicators:

5. The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

Outcomes Include:
A. Identifies appropriate investigative methods (e.g., laboratory experiment, simulation, fieldwork)
B. Investigates benefits and applicability of various investigative methods
C. Investigates the scope, content, and organization of information retrieval systems
D. Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

6. The information literate student constructs and implements effectively-designed search strategies.

Outcomes Include:
D. Develops a research plan appropriate to the investigative method
E. Identifies keywords, synonyms and related terms for the information needed
F. Selects controlled vocabulary specific to the discipline or information retrieval source
G. Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books)
H. Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters
I. Implements the search using investigative protocols appropriate to the discipline

7. The information literate student retrieves information online or in person using a variety of methods.

Outcomes Include:
A. Uses various search systems to retrieve information in a variety of formats
B. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration.

C. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners).

D. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information.

8. The information literate student refines the search strategy if necessary.

   Outcomes Include:
   
   A. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized.
   
   B. Identifies gaps in the information retrieved and determines if the search strategy should be revised.
   
   C. Repeats the search using the revised strategy as necessary.

9. The information literate student extracts, records, and manages the information and its sources.

   Outcomes Include:
   
   C. Selects among various technologies the most appropriate one for the task of extracting the needed information (e.g., copy/paste software functions, photocopier, scanner, audio/visual equipment, or exploratory instruments).
   
   D. Creates a system for organizing the information.
   
   E. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources.
   
   F. Records all pertinent citation information for future reference.
   
   G. Uses various technologies to manage the information selected and organized.

Learning Objective Three

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

Performance Indicators:

3. The information literate student summarizes the main ideas to be extracted from the information gathered.

   Outcomes Include:
   
   A. Reads the text and selects main ideas.
   
   B. Restates textual concepts in his/her own words and selects data accurately.
   
   C. Identifies verbatim material that can be then appropriately quoted.

2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.
Outcomes Include:
A. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias
B. Analyzes the structure and logic of supporting arguments or methods
C. Recognizes prejudice, deception, or manipulation
D. Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information

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

Outcomes Include:
A. Recognizes interrelationships among concepts and combines them into potentially useful primary statements with supporting evidence
B. Extends initial synthesis, when possible, at a higher level of abstraction to construct new hypotheses that may require additional information
C. Utilizes computer and other technologies (e.g. spreadsheets, databases, multimedia, and audio or visual equipment) for studying the interaction of ideas and other phenomena

4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

Outcomes Include:
A. Determines whether information satisfies the research or other information need
B. Uses consciously selected criteria to determine whether the information contradicts or verifies information used from other sources
C. Draws conclusions based upon information gathered
D. Tests theories with discipline-appropriate techniques (e.g., simulators, experiments)
E. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions
F. Integrates new information with previous information or knowledge
G. Selects information that provides evidence for the topic

5. The information literate student determines whether the new knowledge has an impact on the individual’s value system and takes steps to reconcile differences.

Outcomes Include:
A. Investigates differing viewpoints encountered in the literature
B. Determines whether to incorporate or reject viewpoints encountered

6. The information literate student validates understanding and interpretation of the information through discourse with other individuals, subject-area experts, and/or
Outcomes Include:
A. Participates in classroom and other discussions
B. Participates in class-sponsored electronic communication forums designed to encourage discourse on the topic (e.g., email, bulletin boards, chat rooms)
C. Seeks expert opinion through a variety of mechanisms (e.g., interviews, email, listservs)

7. The information literate student determines whether the initial query should be revised. 
   **Outcomes Include:**
   A. Determines if original information need has been satisfied or if additional information is needed
   B. Reviews search strategy and incorporates additional concepts as necessary
   C. Reviews information retrieval sources used and expands to include others as needed

**Standard Four**

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

**Performance Indicators:**

1. The information literate student applies new and prior information to the planning and creation of a particular product or performance. 
   **Outcomes Include:**
   A. Organizes the content in a manner that supports the purposes and format of the product or performance (e.g. outlines, drafts, storyboards)
   B. Articulates knowledge and skills transferred from prior experiences to planning and creating the product or performance
   C. Integrates the new and prior information, including quotations and paraphrasings, in a manner that supports the purposes of the product or performance
   D. Manipulates digital text, images, and data, as needed, transferring them from their original locations and formats to a new context

4. The information literate student revises the development process for the product or performance. 
   **Outcomes Include:**
   A. Maintains a journal or log of activities related to the information seeking, evaluating, and communicating process
   B. Reflects on past successes, failures, and alternative strategies

5. The information literate student communicates the product or performance effectively to others. 
   **Outcomes Include:**
A. Chooses a communication medium and format that best supports the purposes of the product or performance and the intended audience
B. Uses a range of information technology applications in creating the product or performance
C. Incorporates principles of design and communication
D. Communicates clearly and with a style that supports the purposes of the intended audience

**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.

**Performance Indicators:**

4. The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology
   
   **Outcomes Include:**
   
   A. Identifies and discusses issues related to privacy and security in both the print and electronic environments
   B. Identifies and discusses issues related to free vs. fee-based access to information
   C. Identifies and discusses issues related to censorship and freedom of speech
   D. Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material

3. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.
   
   **Outcomes Include:**
   
   A. Participates in electronic discussions following accepted practices (e.g. "Netiquette")
   B. Uses approved passwords and other forms of ID for access to information resources
   C. Complies with institutional policies on access to information resources
   D. Preserves the integrity of information resources, equipment, systems and facilities
   E. Legally obtains, stores, and disseminates text, data, images, or sounds
   F. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own
   G. Demonstrates an understanding of institutional policies related to human subjects research
5. The information literate student acknowledges the use of information sources in communicating the product or performance.

*Outcomes Include:*

B. Selects an appropriate documentation style and uses it consistently to cite sources

C. Posts permission granted notices, as needed, for copyrighted material