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Report: SAILS Test Executive Summary 2014

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Project SAILS

Standardized Assessment of Information Literacy Skills

Executive Summary of the Results of the SAILS Test Administrations, 2011-2014

University of the Pacific

Report Date: August 2014

INTRODUCTION

Information literacy is a set of skills that includes recognizing an information need, locating and retrieving the needed information, analyzing the information, and using the information for a specific task. As sources for information continue to expand, students need to develop these skills so that they not only succeed in their professional careers, but also make well-informed decisions in their day-to-day lives. Information literacy has been identified as an important skill set by faculty of all disciplines, administrators, and accrediting agencies. Therefore, the University Library is exploring ways to assess these skills, which will allow departments and programs the ability to make well-informed decisions regarding the curricula.

As part of the University Library's Three-Year Information Competency Plan (2010-2013), the library administered the Standardized Assessment of Information Literacy Skills (SAILS) Test. The test has been widely administered over a period of several years and is nationally recognized as both reliable and valid. With the support of Dr. Eileen McFall, Director of Assessment, the University Library piloted the test to selected students in Pacific Seminar 1 in 2011, to selected students in Pacific Seminar 3 in 2012, and finally to selected students in Pacific Seminar 3 in 2014.

The following Executive Summary provides a summary of the SAILS Test including key findings and data tables showing the results of the test.

PACIFIC'S LEARNING OUTCOMES AND WASC'S CORE COMPETENCIES

In 2011, the University Library was in the midst of implementing its Three-Year Information Competency Plan. The impetus for the Plan was to assess two of Pacific's learning outcomes:

- Major Field Competence: articulate the essential concepts and methodologies in a major field of study or work.
- Critical and Creative Thinking: effectively analyze, integrate, and evaluate information

With the first two administrations of the SAILS Test in 2011 and 2012, the goal was to collect benchmark and diagnostic data regarding students' information literacy skills.

In 2013, WASC announced its five core competencies that all undergraduate institutions must assess at or near graduation. One of these core competencies is Information Literacy. Due to this and the many conversations librarians, faculty, and administrators had regarding the ways in which the University can effectively assess the core competencies, the SAILS Test was administered again in Spring 2014. The test results from 2011 and 2014 provide comparative, longitudinal data because these two samples came from the same student class.

THE TEST AND HOW IT IS SCORED

The Standardized Assessment of Information Literacy Skills (SAILS)[1] is a knowledge test with multiple-choice questions targeting a majority of information literacy skills. Questions on the SAILS Test are based directly on two documents authored by the Association of College and Research Libraries: (1) "Information Literacy Competency Standards for Higher Education: Standards, Performance Indicators, and Outcomes;"[2] and (2) "Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians."[3] In those documents, each of the five information literacy competency standards is expanded to include performance indicators, outcomes, and objectives. The SAILS Test questions are derived from the outcomes and objectives.

ACRL Standard 4, "uses information to accomplish a specific purpose,"[4] is not included in the SAILS Test. Some outcomes or objectives from the other standards are not tested because they are either covered by other outcomes or are not suitable for multiple-choice testing. Project SAILS has rearranged the outcomes and objectives into eight skills sets.[5]

Each student answers 45 questions, which are pulled from the larger test bank. Students respond to different sets of items, with some common items shared across the individual tests. The test is administered on computers and students are given up to 60 minutes to complete the test, but typically finish around 30-35 minutes. The scoring is based on a combination of question difficulty and student performance. Data from all institutions is merged to create a benchmark file. Student responses are then analyzed to determine an average score for each cohort.

Since it is a standardized multiple choice assessment, the SAILS Test assesses "low-level" information literacy skills. Higher level information literacy skills, such as applying information to create or edit a product (ACRL Standard 4) and effectively communicating that product to others can only be assessed through evaluating those products, which can include research papers, presentations, or performances.

KEY FINDINGS

Taking all three SAILS Test administrations together, the **main finding is that first-year students enter University of the Pacific scoring lower than first-year students at other doctoral granting institutions,[6] but Pacific senior students score higher than seniors at other doctoral granting institutions.**

It is not surprising that our students come in with lower information literacy skills than their peers. A majority of our students are Californian and California school libraries have been underfunded and understaffed for years. According to the California Department of Education, "California ranks at the

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[1] Project Sails, https://www.projectsails.org/(accessed 28 July 2014).
[2] "Information Literacy Competency Standards for Higher Education", American Library Association, 2006 http://www.ala.org/acrl/standards/informationliteracycompetency (accessed July 28, 2014).
[3] "Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians," American Library Association 2006 http://www.ala.org/acrl/standards/objectivesinformation (accessed 28 July 2014).
[4] "Information Literacy Competency Standards for Higher Education."
[5] The list of Project SAILS Skills Set is on page 12.
[6] For the complete list of doctoral granting institutions, see page 11.

bottom of professional library staffing numbers."[7] In 2011-2012, only 8% of California schools had a credentialed teacher librarian. Funding for 51% of California schools comes from fundraising activities. Due to the current state of the California school libraries, students who went through the California school system may not have had many opportunities to develop their information literacy skills in the classroom prior to entering college. The good news is that it appears that our students are able to overcome this disadvantage during their time at Pacific.

While it is clear that students develop information literacy skills during their time at Pacific, at this point it is impossible to isolate the specific factors that cause this development. In order to identify factors that support the improvement of information competency skills in our students, we would need to do much more extensive research. Further examining students' scores based on major and/or skill set could be one method; however, this is problematic due to the small sample size.

NEXT STEPS AND CONCLUSION

In order to make SAILS Test data more useful beyond general institution-level comparisons, it would be helpful to test a greater sample size, as well as collect students' Pacific ID numbers. Having a larger sample size will allow us to draw more conclusions regarding individual majors and skill sets and having access to students' Pacific ID numbers will help us to identify international students, transfer students, and students who failed to matriculate.

In general, these findings tell us that at an institutional level, students are successfully developing "low-level" information literacy skills. While this is something that the University should be proud of, the University Library views the SAILS Test as one part of the puzzle towards assessing information literacy. Each department or program needs to determine for itself (possibly in conjunction with their subject liaison librarian) what information literacy skills a graduating student should have in that particular field, including what key assignments demonstrate higher-level information literacy skills. This will allow the University to demonstrate Pacific's Learning Outcome of "Major Field Competence," as well as paint a more complete picture for WASC'S information literacy core competency.

Test-Taker Profile by Major

2011 – First-Year Students in Pacific Seminar 2

Major	Number of Test-Takers
Health Sciences	34
Business	33
Engineering/Computer Science	33
Other	25
Social Sciences/Psychology	16
Science/Math	15

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[7] California Department of Education, "Statistics About California School Libraries," http://www.cde.ca.gov/ci/cr/lb/schoollibrstats08.asp (accessed 28 July 2014).

Performing & Fine Arts	10
Undecided	10
Education	8
Communications/Journalism	5
History	4
Humanities	4
Not reported	1

2012 – Seniors in Pacific Seminar 3

Major	Number of Test-Takers
Social Sciences/Psychology	30
Health Sciences	23
Business	21
Engineering/Computer Science	14
Science/Math	12
History	11
Other	11
Performing/Fine Arts	10
Communication/Journalism	9
Humanities	8
Education	7

2014 – Seniors in Pacific Seminar 3

Major	Number of Test-Takers
Engineering/Computer Science	37
Social Sciences/Psychology	26
Health Sciences	24
Business	20
Science/Math	15
Other	13
Performing/Fine Arts	11
Communications/Journalism	7
Humanities	7
Education	5
Earth & Environmental Science	3
Law	2
General Studies	1
History	1

<center>**Results by SAILS Skills Sets:**</center>

2011 – First-Year Students in Pacific Seminar 2

Students at University of the Pacific performed **worse than** the institution-type benchmark on the following SAILS skill sets. The ordering reflects the magnitude of difference between Pacific's mean and the institution-type benchmark mean.

        Best: Documenting Sources
                  Searching
                  Selecting Finding Tools
                  Developing a Research Strategy
                  Evaluating Sources
                  Understanding Economic, Legal, and Social Issues
                  Retrieving Sources
      Worst: Using Finding Tool Features

2012 – Seniors in Pacific Seminar 3

Students at University of the Pacific performed **better than** the institution-type benchmark on the following SAILS skill sets. The ordering reflects the magnitude of difference between Pacific's mean and the institution-type benchmark mean.

        Best: Documenting Sources
                  Evaluating Sources
                  Understanding Economic, Legal, and Social Issues
                  Retrieving Sources
                  Using Finding Tool Features
                  Searching
                  Developing a Research Strategy
      Worst: Selecting Finding Tools

2014 – Seniors in Pacific Seminar 3

Students at University of the Pacific performed **better than** the institution-type benchmark on the following SAILS skill sets. The ordering reflects the magnitude of difference between Pacific's mean and the institution-type benchmark mean.

   Best: Documenting Sources
                  Retrieving Sources
                  Understanding Economic, Legal, and Social Issues
                  Searching
                  Evaluating Sources
                  Using Finding Tool Features
                  Selecting Finding Tools
      Worst: Developing a Research Strategy

Data Tables Showing Overall Scores for SAILS Test Administration

2011 Data Table Showing Overall Scores Across all SAILS Skill Sets for First-Year Students
(Scores are on a scale that ranges from 0 to 1000)

	Pacific	Institution Type: Doctorate	Institution Type: Doctorate Standing: Freshman	All Institutions	All Institutions: Standing: Freshman
Number of Test-Takers	198	17,005	13,217	57,371	34,168
SAILS Skills Sets					
Developing a Research Strategy	396	498	489	494	484
Selecting Finding Tools	409	519	513	515	506
Searching	374	477	470	475	465
Using Finding Tool Features	278	533	523	536	524
Retrieving Sources	318	545	533	548	531
Evaluating Sources	335	476	469	475	466
Documenting Sources	389	466	452	453	439
Understanding Economic, Legal, and Social Issues	318	451	441	444	433

2011 Comparison of Pacific Scores to Peer Group
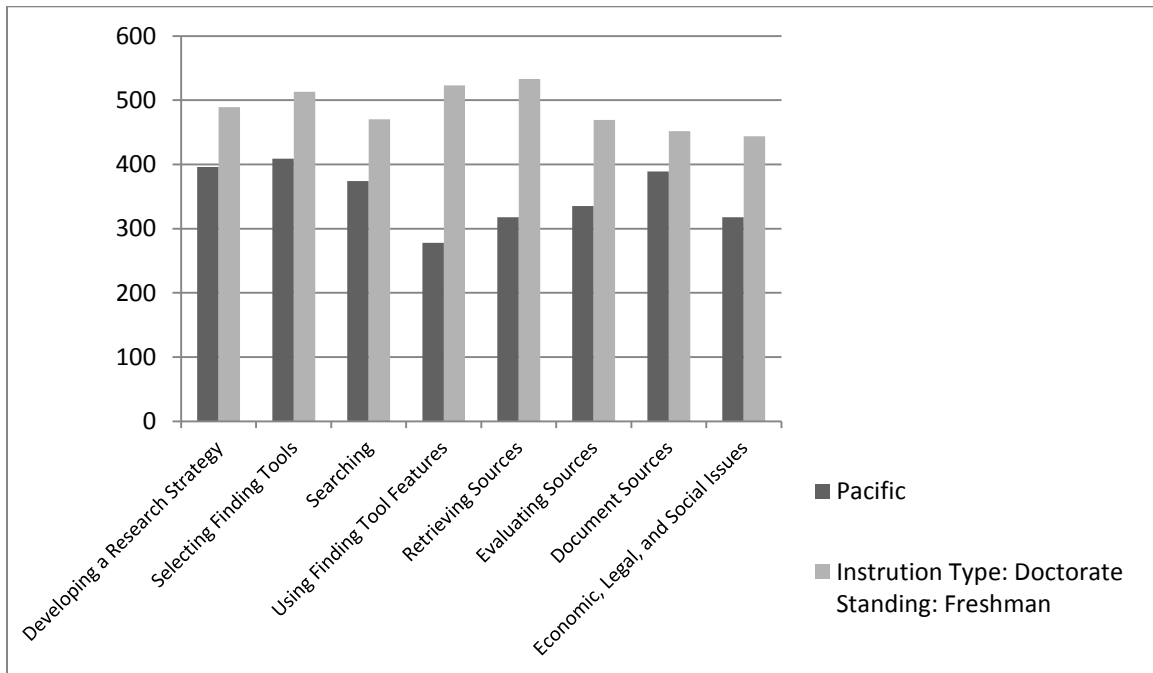
Legend: Pacific; Instrution Type: Doctorate Standing: Freshman

2012 Data Table Showing Overall Scores Across all SAILS Skill Sets for Seniors
(Scores are on a scale that ranges from 0 to 1000)

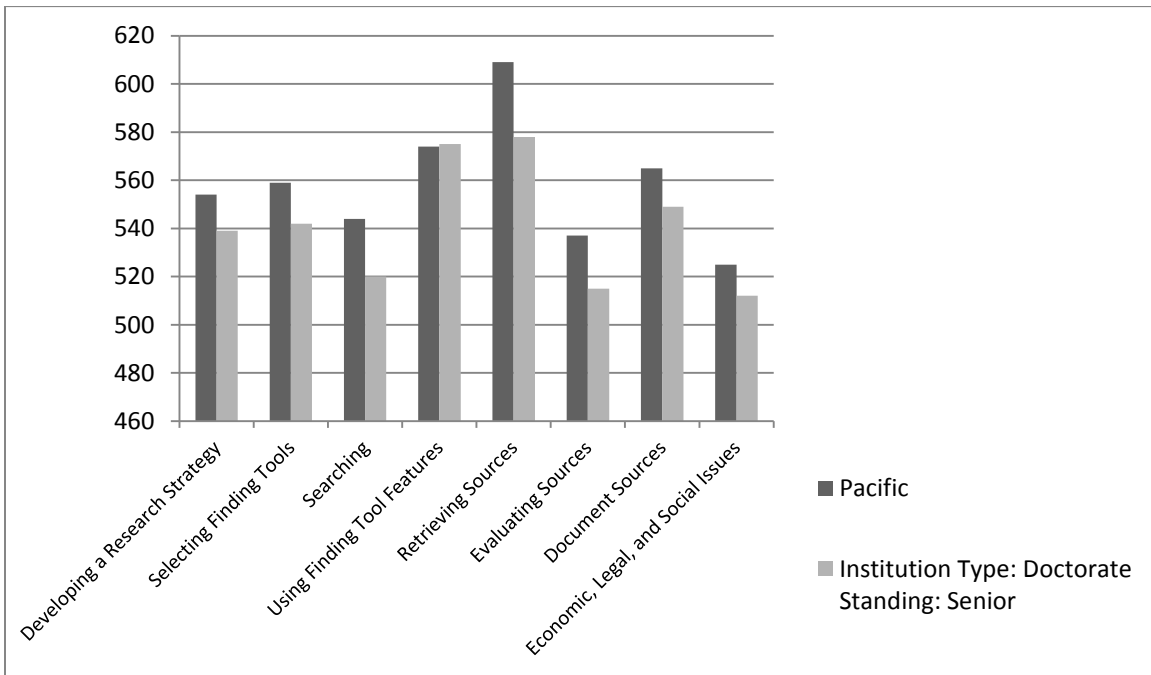|	Pacific's Seniors	Institution Type: Doctorate	Institution type: Doctorate Standing: Senior	All Institutions	All Institutions: Standing: Senior
Number of Test-Takers	156	17,961	1,573	65,971	9,749
SAILS Skill Sets					
Developing a Research Strategy	554	502	539	499	523
Selecting Finding Tools	559	507	542	503	526
Searching	544	487	520	483	507
Using Finding Tool Features	574	532	575	531	557
Retrieving Sources	609	519	578	518	560
Evaluating Sources	537	478	515	476	500
Documenting Sources	565	487	549	473	516
Understanding Economic, Legal, and Social Issues	525	471	512	464	490

2012 Comparison of Pacific Scores to Peer Group

2014 Data Table Showing Overall Scores Across all SAILS Skill Sets for Seniors

(Scores are on a scale that ranges from 0 to 1000)

	Pacific	Institution Type: Doctorate	Institution Type: Doctorate Standing: Senior	All Institutions	All Institutions: Standing: Senior
Number of Test-Takers	152	22,150	1,986	61,099	14,050
SAILS Skills Sets					
Developing a Research Strategy	553	503	530	506	525
Selecting Finding Tools	564	506	538	506	525
Searching	536	486	513	486	503
Using Finding Tool Features	561	530	562	533	552
Retrieving Sources	616	515	564	520	551
Evaluating Sources	545	477	507	479	498
Documenting Sources	562	476	528	470	500
Understanding Economic, Legal, and Social Issues	531	466	498	466	486

2014 Comparison of Pacific Scores to Peer Group
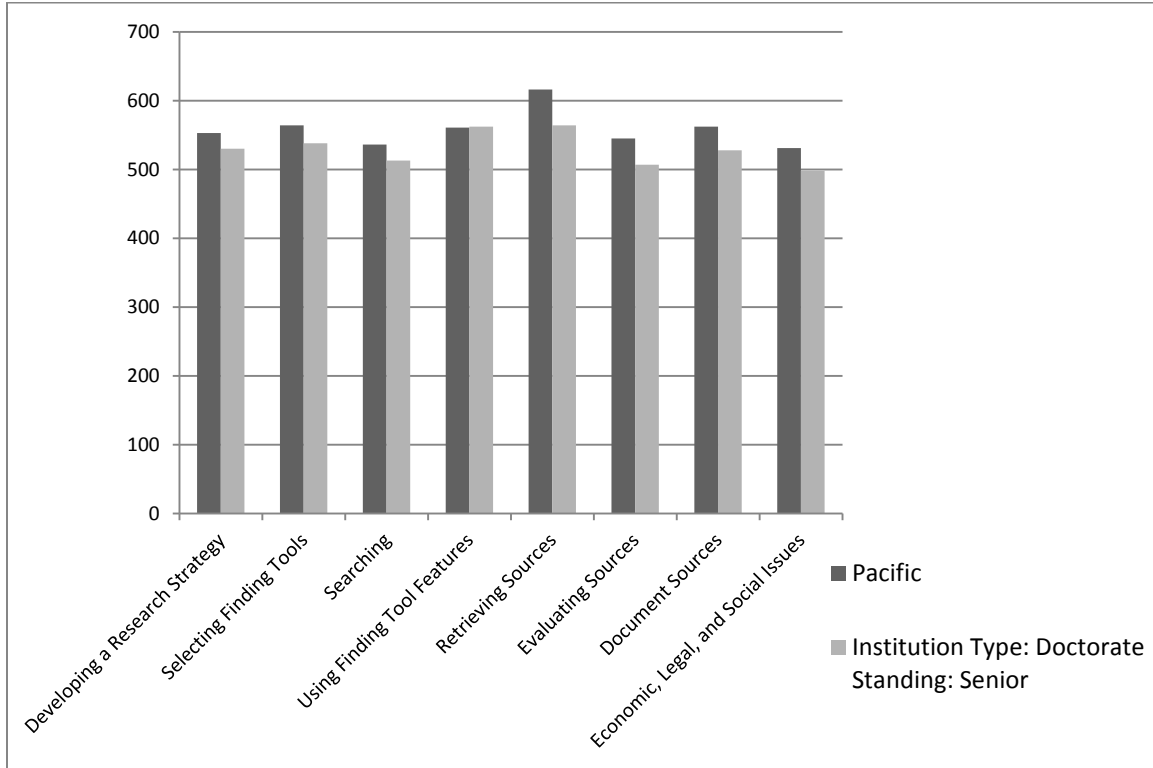
Data Tables Showing Pacific's Scores by Skill Set and Major

2011 Data Table Showing Pacific's Scores by Skill Set and Major
(Scores are on a scale that ranges from 0 to 1000)

Skill Set	Major								
	Overall	Business	Eng/CS	Health Sci	Perf/Fine Arts	Sci/Math	Soc Sci/Psyc	Other	Undec-ided
Developing a Research Strategy	396	389	396	388	379	392	436	420	392
Selecting Finding Tools	409	406	422	391	367	437	433	397	366
Searching	374	391	357	385	352	399	342	396	372
Using Finding Tool Features	278	308	253	266	312	211	205	322	384
Retrieving Sources	318	320	300	315	347	300	283	374	285
Evaluating Sources	335	366	337	320	255	357	385	308	365
Documenting Sources	389	392	390	395	339	418	398	354	389
Understanding Economic, Legal, and Social Issues	318	314	338	341	290	326	299	290	307

2012 Data Table Showing Pacific's Scores by Skill Set and Major
(Scores are on a scale that ranges from 0 to 1000)

Skill Set	Major								
	Overall	Business	Eng/CS	Health Sci	History	Perf/Fine Arts	Sci/Math	Soc Sci/Psyc	Other
Developing a Research Strategy	553	536	558	538	606	524	566	572	562
Selecting Finding Tools	561	503	578	564	711	557	639	577	475
Searching	545	518	578	495	589	576	561	546	581
Using Finding Tool Features	575	548	589	570	629	642	583	571	610
Retrieving Sources	609	604	603	530	630	657	679	604	
Evaluating Sources	539	506	520	548	585	606	581	568	545
Documenting Sources	567	545	540	557	662	576	685	567	544
Understanding Economic, Legal, and Social Issues	524	489	517	476	621	530	566	543	544

2014 Data Table Showing Pacific's Scores by Skill Set and Major
(Scores are on a scale that ranges from 0 to 1000)

Skill Set	Major							
	Overall	Business	Eng/CS	Health Sci	Perf/Fine Arts	Sci/Math	Soc Sci/Psyc	Other
Developing a Research Strategy	555	556	536	569	526	589	569	561
Selecting Finding Tools	561	511	554	529	589	617	581	567
Searching	539	541	516	541	585	575	531	539
Using Finding Tool Features	563	493	551	541	469	614	607	639
Retrieving Sources	608	623	599	573	714	563	626	615
Evaluating Sources	545	540	542	539	599	519	541	594
Documenting Sources	556	595	546	531	644	533	590	574
Understanding Economic, Legal, and Social Issues	532	519	525	522	518	534	585	562

NOTES: Project SAILS reports the differences in the skill sets among various majors; however, the numbers are quite small for each group. We are limited in reporting by specifying only those majors that SAILS identifies on the standard form. There is no way to determine what percentage of the students received information competency (IC) instruction.

List of 2014 Participating Institutions in the Doctoral Level Benchmark

Name	Location
Auburn University	Auburn, AL
Barry University	Miami Shores, FL
Dalhousie University (Law)	Halifax, Nova Scotia
Johnson & Wales University	Providence, RI
Lincoln Memorial University	Harrogate, TN
Long Island University CW Post	Brookville, NY
Lynchburg College	Lynchburg, VA
McMaster University	Hamilton, Ontario
Misericordia University	Dallas, PA
Mississippi College	Clinton, MS
Pepperdine University	Malibu, CA
Samford University	Birmingham, AL
University of Arkansas at Little Rock	Little Rock, AR
University of Pittsburgh	Pittsburgh, PA
University of Texas at Dallas	Richardson, Texas
University of the Pacific	Stockton, CA

Project SAILS Skill Sets

Project SAILS bases the SAILS Skill Sets on the ACRL Information Literacy Standards.

ACRL STANDARDS

Standard 1: Determines the nature and extent of the information needed

Standard 2: Accessed needed information effectively and efficiently

Standard 3: Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system

Standard 4: Uses information effectively to accomplish a specific purpose. – *Not used*

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

SAILS Skill Sets

Developing a Research Strategy: Student can identify an appropriate research topic, keywords for searching, and relevant sources of information.

Selecting Finding Tools: Student understands the differences among information resources, such as disciplinary scope, dates of coverage, authority, reliability, and format and can make appropriate selections based on information need.

Searching: Student can locate information resources and search within them using protocols such as controlled vocabularies, discipline-specific terminologies, truncation, and Boolean search logic.

Using Finding Tool Features: Student understands and applies tools embedded within information resources, such as indexes, abstracts, alternative searching and interface options, and reproduction technologies.

Retrieving Sources: Student can employ a variety of retrieval methods to obtain information within the required time frame and in an appropriate format.

Evaluating Sources: Student can evaluate the quality of information retrieved using criteria such as authorship, point of view/bias, and citations, and can also verify information through consultation with multiple sources.

Documenting Sources: Student can interpret and construct accurate bibliographic citations according to the conventions of a discipline and the nature of the source material.

Understanding Economic, Legal, and Social Issues: Student understands and applies the principles of intellectual property, copyright, censorship, and plagiarism in using and creating information resources.

--End of Report