



**SAMPLE EXCERPT:**

**Results of the Standardized Assessment of Information Literacy Skills (SAILS)**

**for**

**University of Pittsburgh  
Administration: CGS Spring 2007  
Report Date: June 2007**

**Note: The University Library System conducted a SAILS test for the College of General Studies in the Spring 2007 term. The report generated from this test consists of over 200 pages. This document is a short compilation of summary information from the full report.**

## SAILS Results - CGS Spring 2007

### 1. THE TEST AND HOW IT IS SCORED

#### The Test

The Standardized Assessment of Information Literacy Skills (SAILS) is a knowledge test with multiple-choice questions targeting a variety 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; and (2) Objectives for Information Literacy Instruction: A Model Statement for Academic Librarians. In those documents, each of 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.

The SAILS item bank has 142 whole items in American English. Each student answers 40 items from the item bank and 5 items that are in development. For some items, test takers are instructed to select more than one correct response (“Choose all that apply.”). For these types of items, all possible responses are analyzed separately. This analysis of individual responses increases the “item count” to 173, as compared with the 142 whole items in the item bank.

The items span the eight SAILS skill sets and the four ACRL standards targeted by the test. Students respond to different sets of items, with some common items shared across the individual tests. Figure 1 shows how many items are in each of the subscales.

**Figure 1 Number of Items in Each Subscale**

SAILS Skill Sets	Number of Items
Developing a Research Strategy	24
Selecting Finding Tools	16
Searching	28
Using Finding Tool Features	7
Retrieving Sources	13
Evaluating Sources	17
Documenting Sources	13
Understanding Economic, Legal, and Social Issues	24

ACRL Standards	Number of Items
Standard 1: Determines the nature and extent of the information needed	31
Standard 2: Accesses needed information effectively and efficiently	63
Standard 3: Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system	19
Standard 4: NOT USED	0
Standard 5: Understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally	29

## **Scoring**

The measurement model used by SAILS is item response theory (IRT), specifically the one-parameter Rasch model. IRT calculates scores based on a combination of item difficulty and student performance. The process begins with merging data from all institutions into a benchmark file. Student responses to the items on the test are then used to determine the difficulty level of each item. Once that determination is made, student responses are analyzed to determine an average score for each group (or cohort). Scores in the report are placed on a scale that ranges from 0 to 1000.

The report gives results for several groups, including your institution overall, institutions of a similar type, and all institutions combined. Depending on the size of other cohorts and the variability of their responses, additional breakouts may be reported for class standing and majors. If you created any custom questions, breakouts for those may also appear in the report.

## **2. TEST-TAKER PROFILE**

Figure 2 is a demographic profile of students who took the SAILS test at the University of Pittsburgh (CGS) during the Spring 2007 term along with profiles for other institutions of the same type (Doctorate), and for all other institutions combined. The table reports the available demographic data; not all elements of demographic data were reported for all test takers.

**Figure 2. Demographic Profile**

Characteristics	Pitt (n=143)		Institution Type: Doctorate (n=17,513)		All Institutions (n=29,698)	
	n	%	n	%	n	%
<b>Class Standing</b>						
Freshman	21	14.7	8,818	50.4	15,754	53.0
Sophomore	34	23.8	3,359	19.2	5,606	18.9
Junior	31	21.7	2,407	13.7	3,427	11.5
Senior	34	23.8	2,662	15.2	4,069	13.7
Other	23	16.1	219	1.3	724	2.4
Not reported	0	0.0	48	0.3	118	0.4
<b>Student Major</b>						
Agriculture/Environmental Studies	1	0.7	386	2.2	426	1.4
Architecture	0	0.0	89	0.5	157	0.5
Business	7	4.9	2,481	14.2	4,262	14.4
Communications/Journalism	11	7.7	1,011	5.8	1,339	4.5
Education	3	2.1	1,120	6.4	2,108	7.1
Engineering/Computer Science	4	2.8	2,075	11.8	2,674	9.0
General Studies	18	12.6	128	0.7	159	0.5
Health Sciences	11	7.7	1,468	8.4	2,424	8.2
History	0	0.0	225	1.3	396	1.3
Humanities/Liberal Arts	10	7.0	1,360	7.8	2,920	9.8
Law	7	4.9	148	0.8	419	1.4
Military/Naval Science	0	0.0	0	0.0	7	0.0
Performing & Fine Arts	0	0.0	491	2.8	862	2.9
Science/Math	11	7.7	1,223	7.0	1,831	6.2
Social Sciences/Psychology	16	11.2	2,522	14.4	3,362	11.3
Other	33	23.1	1,601	9.1	3,933	13.2
Undecided	11	7.7	1,125	6.4	2,054	6.9
Not reported	0	0.0	17,453	0.3	365	1.2

Custom Demographics	Pitt (N=143)	
	n	%
<b>What is your age?</b>		
18 - 22	16	11.2
23 - 26	27	18.9
27 - 35	33	23.1
36 or older	67	46.9
Not reported	0	0.0
<b>In which CGS major are you enrolled?</b>		
Dental Hygiene	3	2.1
Humanities	10	7.0
Legal Studies	15	10.5
Liberal Studies	6	4.2
Media and Professional Communications	14	9.8
Natural Sciences	13	9.1
Public Service	7	4.9
Social Sciences	19	13.3
Other	56	39.2
Not reported	0	0.0

### 3. RESULTS BY SAILS SKILL SETS

Student performance is presented in this section by skill sets, which are regroupings of the ACRL objectives for information literacy instruction.

Figures and text are provided only for skill sets that have enough items and where enough data were collected to allow for analysis on the skill set.

The first part of this section reports findings from across the skill sets, with a Summary of Results followed by Detailed Results in a table. The second part of this section focuses on one representative chart for one skill set.

#### Across the Skill Sets

##### Summary of Results

Students at University of Pittsburgh performed **better than** the institution-type benchmark on the following SAILS Skill Sets:

- Searching
- Retrieving Sources

Students at University of Pittsburgh performed **about the same** as the institution-type benchmark on the following SAILS Skill Sets:

- Developing a Research Strategy
- Selecting Finding Tools
- Using Finding Tool Features
- Evaluating Sources
- Documenting Sources
- Understanding Economic, Legal, and Social Issues

To identify which skill sets were easier and which were more difficult for University of Pittsburgh students, below are the skill sets ordered by performance, from best to worst.

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

##### Detailed Results - Data Table

Scores are placed on a scale that ranges from 0 to 1000. In the following table, the average score for each group is reported. Standard errors above and below the score are indicated with  $\pm$ . The accuracy of the average score calculation is affected by sample size and variability. Small samples or large variability can reduce the accuracy of the score calculation. In those cases, the standard error is larger. (Standard error is the combination of sampling error and measurement error.) Where we are able to measure the score with a high degree of accuracy, the standard error is small.

The true group average score falls between two numbers. Those numbers can be calculated by adding and subtracting the standard error to the reported score. For example, a reported score of 525 with a standard error of  $\pm 5$  has a range from 530 to 520. The true group average score falls in the range of 530 to 520.

To determine whether two groups are significantly different from each other, see whether the ranges of scores overlap. Ranges of scores that do overlap are not significantly different from each other; those that do NOT overlap are significantly different.

**Figure 3. Data Table Showing Overall Scores Across All SAILS Skill Sets**

	University of Pittsburgh	Institution Type: Doctorate	All Institutions
<b>SAILS Skill Sets</b>			
Developing a Research Strategy	616 $\pm 15$	602 $\pm 1$	597 $\pm 1$
Selecting Finding Tools	581 $\pm 20$	565 $\pm 2$	560 $\pm 1$
Searching	584 $\pm 14$	559 $\pm 1$	552 $\pm 1$
Using Finding Tool Features	656 $\pm 29$	653 $\pm 3$	648 $\pm 2$
Retrieving Sources	642 $\pm 29$	587 $\pm 3$	577 $\pm 2$
Evaluating Sources	634 $\pm 20$	615 $\pm 2$	610 $\pm 1$
Documenting Sources	612 $\pm 27$	606 $\pm 2$	596 $\pm 2$
Understanding Economic, Legal, and Social Issues	573 $\pm 15$	563 $\pm 1$	556 $\pm 1$

## Within Skill Sets

This section reports in detail the performance of University of Pittsburgh students on the individual SAILS skill sets. For each skill set, the report includes: Summary of Results; Detailed Results - Data Table; Detailed Results - Chart; and ACRL Objectives Measured by the Skill Set. Results for the custom demographic questions are presented in charts. For the purposes of brevity and to provide an example of the charts available in SAILS, Figure 4 lists one chart for one skill set: Developing a Research Strategy – By Class Standing.

The chart on the following pages compare the average student performance at your institution to the average for your institution type, and the average for all institutions. Charts may include indicators of performance by class standing, major, and custom demographics. On the left side of each chart (the vertical axis), the scale ranges from 0 to 1000. Average scores for each group (cohort) are shown on the chart. Use the color key to identify each group.

Each box on the chart shows the average score for that group plus the standard error. The accuracy of the average score calculation is affected by sample size and variability. Small samples or large variability can reduce the accuracy of the score calculation. In those cases, the standard error is larger. (Standard error is the combination of sampling error and measurement error.) Where we are able to measure the score with a high degree of accuracy, the standard error is small.

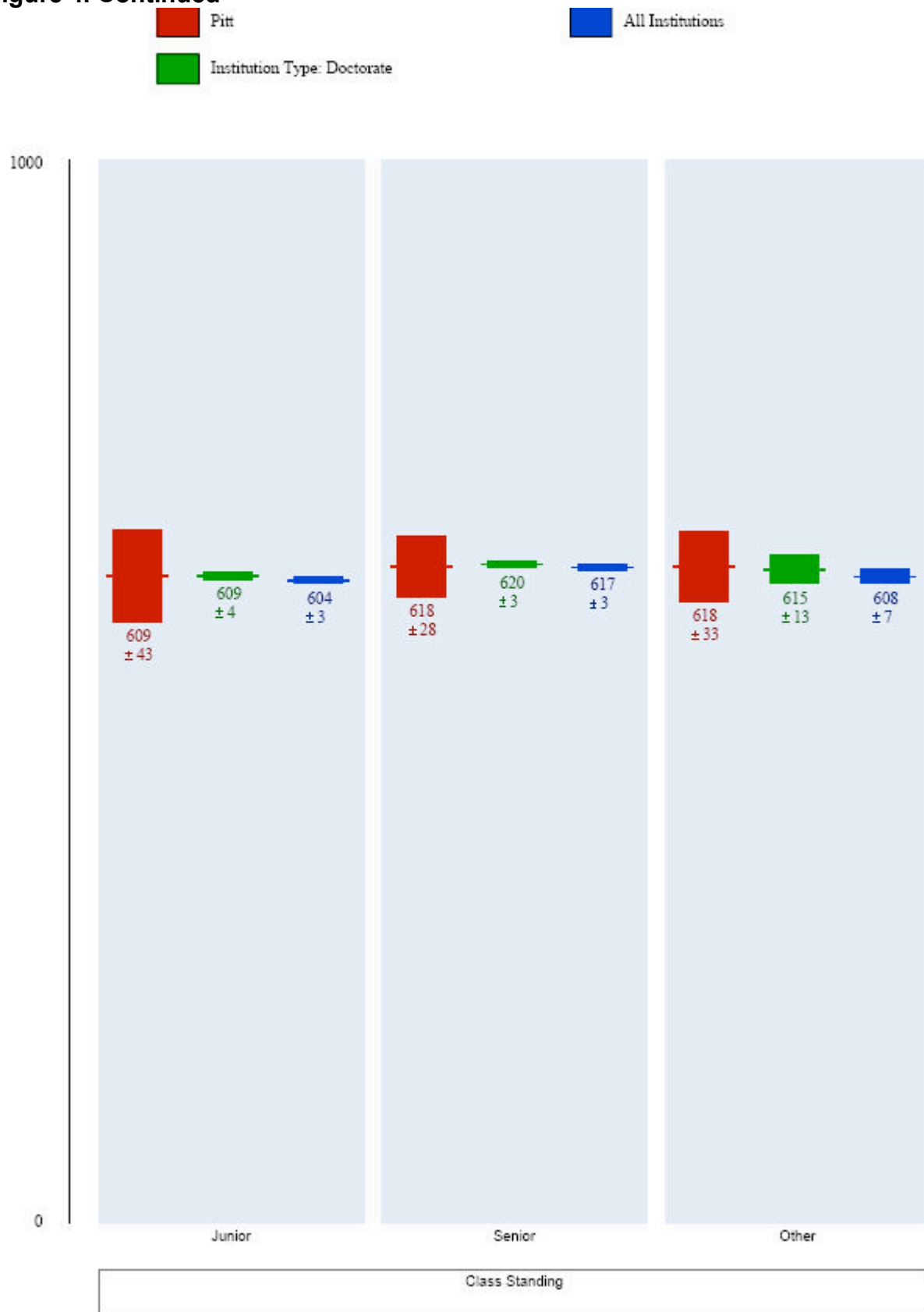
On the chart, the bigger boxes show larger standard error. The upper and lower boundaries of each box can be calculated by adding and subtracting the standard error to the score. For example, a score of 525 with a standard error of  $\pm 5$  has a box that ranges from 530 to 520. The true group average score falls in the range of 530 to 520.

To determine whether two groups are significantly different from each other, see whether the ranges of scores, represented by the boxes, overlap. Ranges of scores (boxes) that do overlap are not significantly different from each other; those that do NOT overlap are significantly different.

Figure 4. Chart for Skill Set: Developing a Research Strategy



Figure 4. Continued



## About Project SAILS

Project SAILS is located at Kent State University in Ohio. Since development began in 2000, the project has received significant support from Kent State University, the Association of Research Libraries, the Ohio Board of Regents, the Institute of Museum and Library Services, and the many colleges and universities that have participated in the project.

Project SAILS began when a team of librarians at Kent State University identified a need to measure information literacy skills of students. The need emerged where the demand for increased accountability, the call for continual assessment, and the growing information literacy movement met. Several important questions arose: Does information literacy affect student success? Where do students learn their information literacy skills? What role does the library play in information literacy levels of students? Are the resources allocated to library instruction worthwhile for the university? Answers to these questions require intensive and careful investigation. And the investigation must begin with the answer to a seemingly simple question: How information literate are our students?

To answer that basic question, the project team created the Standardized Assessment of Information Literacy Skills (SAILS). Over the course of six years, the team, in close collaboration with its partners, developed a test that:

- is valid and reliable
- is based on the Information Literacy Competency Standards for Higher Education published by the Association of College and Research Libraries
- is comprised of carefully written and tested items
- is easy to administer on a large scale
- offers internal and external benchmarking
- results in data reports that clearly describe performance of groups of students

The information provided by the SAILS test, coupled with knowledge of and interpretation by the local institution, will allow faculty to investigate the larger questions about the effect of information literacy on student success.

Libraries that utilize SAILS will be able to document information literacy skill levels, establish internal and peer benchmarks of performance, pinpoint areas for improvement, identify and justify resource needs, and assess and demonstrate the effects of changes in their instructional programs.