Sustainability Literacy at RU
Student Learning & Assessment Data Day

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EVELYN T. STONE COLLEGE
OF PROFESSIONAL STUDIES
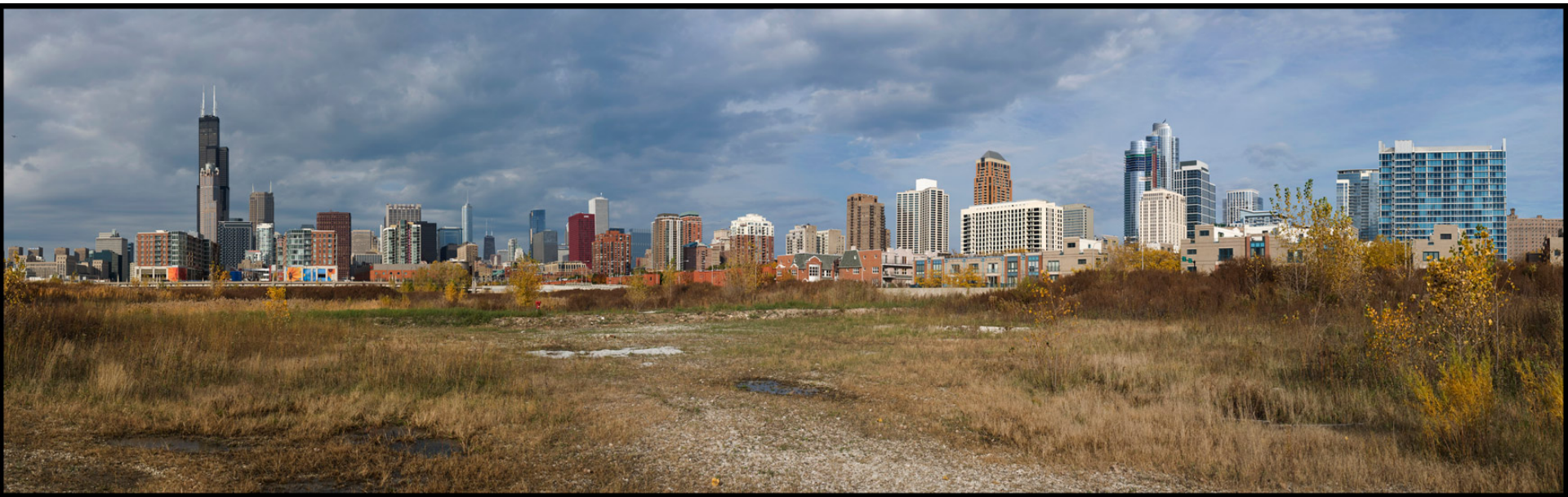
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8 May 2014

What Would a Sustainable Future Look Like?

Hiking Northerly Island, 2011
(photo by L. Bryson)

Environmental resources are conserved for both future human generations as well as non-human biota.

Economic development occurs not at the expense of the natural environment, but in a way to mitigate ecological costs and impacts.

Equity – social, economic, and environmental justice – governs the process of sustainable development.

Sustainability Studies Program at RU

- **Fosters environmental literacy** through interdisciplinary work in the natural sciences, social sciences, and humanities;
- **Engages public policy** concerns surrounding consumption, energy usage, and viable economic growth;
- **Explores social justice** issues on a range of fronts, including environmental justice, resource allocation, urban development, and social equity;
- **Educates students to be leaders** on issues of sustainability, one of the critical issues of the 21st century.

Sustainability Studies Curriculum

Core Courses

SUST 210   Sustainable Future

SUST 220   Water

SUST 230   Food

SUST 240   Waste

Advanced Courses

SUST 310   Energy & Climate Change

SUST 320   Sprawl, Transportation, & Planning

SUST 330   Biodiversity

SUST 340   Policy, Law, & Ethics

Special Options

SUST 350   Service & Sustainability

SUST 390   Special Topics

SUST 395   Internship

Sustainability Literacy (SL) Survey

- Key part of the SUST Program's Assessment Plan for 2013-14
- Based on the "Assessment of Sustainability Knowledge" survey instrument developed in July 2013 by The Environmental & Social Sustainability Lab, The Ohio State University; endorsed as assessment tool by AASHE
- Administered in September 2013 to subset of undergraduate courses in the College of Professional Studies (SUST, PLS, and CJ); total # of completed surveys: 173

Assessment Microgrant: The Rogers Factor

Special contributions to this survey assessment and analysis were made by two key people, who together constitute the "Rogers Factor":

Ester Rogers, RU's Office of Institutional Research: helped with survey design & implementation, suggestions for modes of analysis, and Microgrant funding support during the Spring 2014 semester.

Scott Rogers, junior SUST major in the College of Professional Studies: performed key data entry work and contributed a wide range of preliminary analysis of survey results.

Sustainability Literacy (SL) Survey

THE OHIO STATE UNIVERSITY

ROOSEVELT UNIVERSITY

aashe *member*
The Association for the Advancement
of Sustainability in Higher Education

Goals

Determine baseline SL of RU undergrads

Compare groups of students (class, age, major, etc.)

Facilitate program assessment in relation to SL at other US universities

Provide one means of assessing SUST curriculum

Basic Design

28 questions on environmental, economic, & equity/ethical issues

12 demographic questions

Qualtrics survey format (online) & paper version; most surveys were completed online

Selected Environmental Questions

- What is the most common cause of pollution of streams and rivers?

- Ozone forms a protective layer in the earth's upper atmosphere. What does ozone protect us from?

- What is the name of the primary federal agency that oversees environmental regulation?

- What is the primary benefit of wetlands?

- Which of the following is an example of sustainable forest management?

- In the U.S., what do we currently do with the nuclear waste generated by nuclear power plants?

Selected Economic Questions

- Many economists argue that electricity prices in the U.S. are too low because…

- Which of the following countries has now passed the U.S. as the biggest emitter of the greenhouse gas carbon dioxide?

- Which of the following is a leading cause of the depletion of fish stocks in the Atlantic Ocean?

- Which of the following is the most commonly used definition of economic sustainability?

- Which of the following is the primary reason that gasoline prices have risen over the last several decades in the U.S.?

Selected Social Questions

- Which of the following is the most commonly used definition of sustainable development?

- The wealthiest 20% of people in the U.S. own approximately what percent of the nation's privately held wealth?

- Over the past 3 decades, what has happened to the difference between the wealth of the richest and poorest Americans?

- Higher levels of education generally lead to...

- Which of the following populations has the highest rate of growth?

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Question 1 (environmental)

What is the most common cause of pollution of streams and rivers?

a. Dumping of garbage by cities
b. Surface water running off yards, city streets, paved lots, and farm fields
c. Litter near streams and rivers
d. Waste dumped by factories
e. Don't know

Question 1 (environmental)

What is the most common cause of pollution of streams and rivers?

a. Dumping of garbage by cities
b. **Surface water running off yards, city streets, paved lots, and farm fields**
c. Litter near streams and rivers
d. Waste dumped by factories
e. Don't know

38% of RU students answered this correctly (66/173)

2013 SL Survey Results

Academic Majors: Key Categories (non-SUST)

Natural science (biology, chemistry, math, etc.)

Social science (psychology, sociology, political science, criminal justice, etc.)

Humanities (English, communications, journalism, foreign language, philosophy, history, etc.)

Business (finance, human resources, marketing, accounting, etc.)

Education (elementary ed, secondary ed, etc.)

Professional (hospitality management, organizational leadership, paralegal studies, etc.)
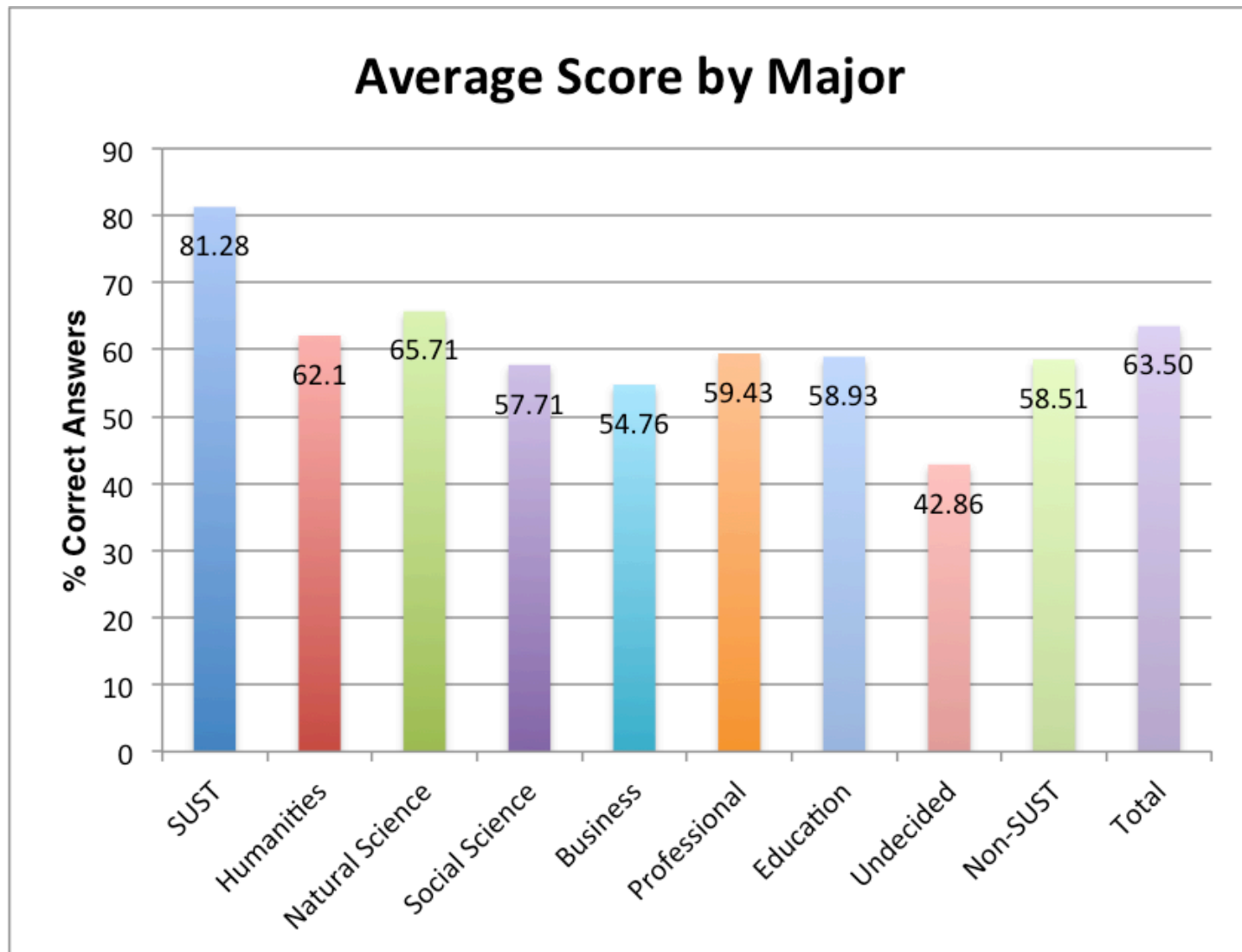
2013 SL Survey Results

Average Score by Major

Major	Avg Score	N
SUST	**81.28**	**33**
Humanities	62.1	18
Natural Science	65.71	10
Social Science	57.71	44
Business	54.76	12
Professional	59.43	39
Education	58.93	2
Undecided	42.86	6
Non-SUST	**58.51**	**131**
Total	**63.50**	**164**

SUST score significantly different from Non-SUST score ($p < 0.01$)

2013 SL Survey Results
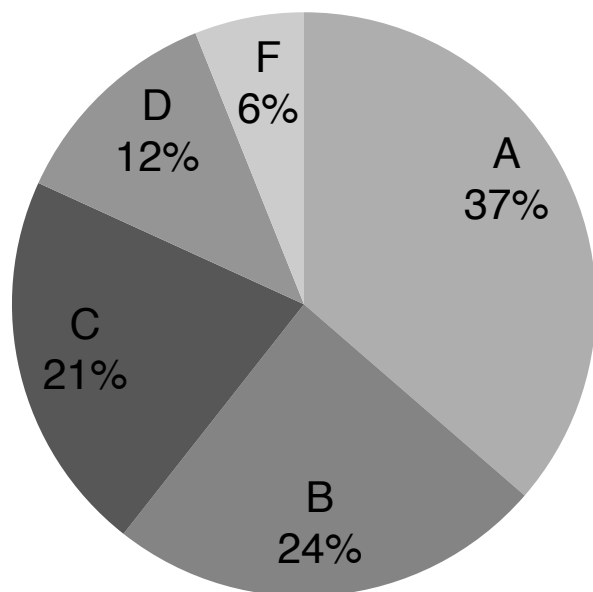

Average Score by Major

Natural Science majors only other group to score above RU average

2013 SL Survey Results

Scores by Major Converted to Letter Grades

SUST Major Letter Grades

F 6%
D 12%
A 37%
C 21%
B 24%

Non-SUST Letter Grades

A 1%
B 12%
F 45%
C 20%
D 22%
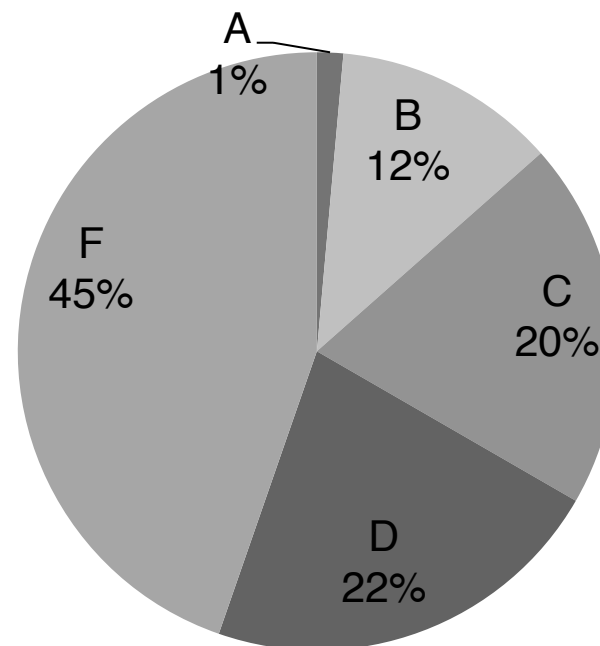
90-100% A, 80-89% B, etc.
61% of SUST majors scored B or higher vs. 13% non-SUST majors

2013 SL Survey Results

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Average Score by Class Level

Class Level	Avg Score	N
Freshman	61.07	10
Sophomore	56.46	21
Junior	62.57	49
Senior	65.89	70
Unspecified	61.81	13
Total	**61.56**	**163**

Possible slight upward trend here, replicated in OSU results;
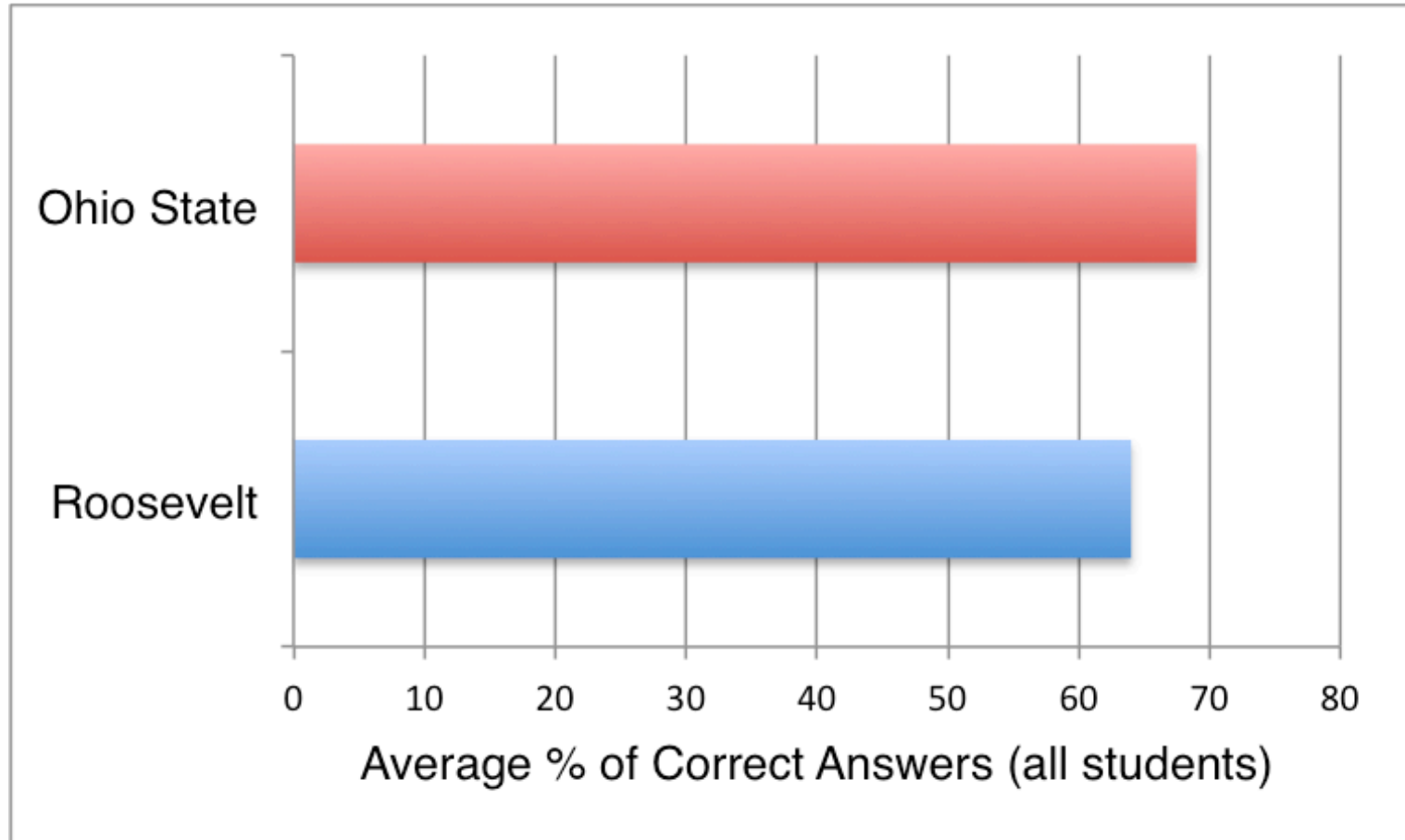Freshman score may be anomalous due to low N

2013 SL Survey Results

Average Score by Age

Age	Avg Score	N
18-23	61.07	60
24-39	56.46	75
40-64	62.57	25
Total	60.03	160

No obvious pattern here; older students are just as sustainability literate as younger students in this small sample

2013 SL Survey Results

Quick Comparison of RU to OSU: Overall Scores

Ohio State: 69% (N ~ 1500)   Roosevelt: 64% (N = 164)

2013 SL Survey Conclusions

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- Sustainability Studies majors as a group score significantly higher on this sustainability literacy survey than non-SUST students at RU as a whole, or any other sub-group of undergraduate majors

- RU students as a whole score slightly lower than undergrads at the Ohio State University, but performance is comparable

- Overall, undergraduate students at RU are relatively illiterate about basic sustainability facts and issues, as their average score is a low "D" when converted to a letter grade

- SUST majors score much higher on the assessment, indicating the value of the curriculum at improving basic sustainability literacy

- There is a real need for sustainability education across the board for all undergraduate students, regardless of major

Next Steps: SUST Program Assessment

- Continue analyzing results of SL Survey and share with SUST part-time faculty

- Explore feasibility of administering the student to a representative sample of all RU undergrads in 2014-15

- Contribute assessment data to RU's Environmental Sustainability Committee and discuss relevance STARS 2.0 reporting for overall university sustainability efforts

- Follow up with other assessment activities: curriculum review, alumni survey, writing/communication/critical analysis skills, etc.