Supplemental Instruction Outcomes Assessment Overview
2012-2013

Authors: Craig Zywicki, Supplemental Instruction Program Coordinator
Carrie Sporrer, Supplemental Instruction Undergraduate Research Assistant
Molly Larsen, Supplemental Instruction Graduate Assistant
Carrielle Cofax, Supplemental Instruction Graduate Assistant

Contact: Craig Zywicki, czywicki@iastate.edu
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Abstract
Evaluations of the Supplemental Instruction (SI) program assess whether students who attend SI sessions earn higher final course grades than students who do not attend SI sessions. This report provides an overview of SI participation during the 2012-2013 academic year, which continues to demonstrate a positive influence on student academic success, and continued significant growth in the use of SI.

Program
SI is an academic support program utilizing peer-assisted study sessions to enhance student performance and retention. Deanna Martin, Ph.D., at the University of Missouri at Kansas City, first developed in 1973. In 1992, Iowa State University established an SI program targeting traditionally difficult entry-level courses that result in a high percentage of D or F grades and withdrawal rates. Since its implementation, students who have attended SI sessions:

- Earned statistically significant higher final course grades,
- Withdrew from courses less frequently than non-participants.

Executive Summary

Purpose
Our general outcomes assessment of SI fulfills the following purposes:

- To continue ongoing reporting of information collected by the Supplemental Instruction staff,
- To disseminate findings to faculty, students, SI Leaders, Academic and Student Affairs Administrators, and
- To report statistics comparing participants in SI to non-participants.

This report also provides the general framework for additional data analysis and reporting. Additional reports address other research questions about SI.

Methodology
We obtained course rosters from the Registrar’s Office each semester without the students’ prior consent under the following provision in the Family Education Rights to Privacy Act: 34 CFR Part 99. The rosters contain students’ demographic and academic variables. The data are merged into a database created using the statistical software SPSS. SI Leaders track attendance at each SI section, and participation data are regularly entered into the database. Data entry and database management are primary responsibilities of the Undergraduate Research Assistant.

At the end of each semester, we merged final course grades into the database to compare participants and non-participant course outcomes. We maintain confidentiality of personal information and do not report students’ names. Additional coding enables simplified reporting. Comprehensive reports including descriptive statistics of SI Participants and Non-Participants, summary reports for each class including final course grades, number of SI sessions attended, mean number of sessions attended, mean size of SI sessions, and final course grade according to number of SI sessions attended. We completed additional reports for special programs on campus and to assess specific features of the SI program.

Findings
The findings reported are based on data collected for all courses over the entire 2012-2013 school year. Highlights for the academic year include:

- We offered SI for 28 courses during the fall semester, and 24 courses in the spring. The final course grade for SI Participants was significantly higher for 15 fall courses and 10 spring courses. For the other courses, there was no statistically significant difference in final grades between SI Participants and Non-Participants.
- 76.9% of SI Participants received a final grade of C or higher, compared to 67.3% of Non-Participants.
- Non-Participants withdrew from a course at twice the rate of SI Participants (8.5% to 4.1%).
- 80.5% of SI Participants believe SI helped them earn at least a ½ letter grade improvement in the course.
- 95.8% of students’ ratings of their SI Leaders’ skills (on six qualities) were “Satisfactory,” “Good,” or “Excellent.”

### TABLE 1: SI Participant and Non-Participant Group Comparison

<table>
<thead>
<tr>
<th></th>
<th>SI Participants (N=9,515)</th>
<th>SI Non-Participants (N=21,151)</th>
<th>All Students (N=30,666)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Combined A, B, C</td>
<td>7,297</td>
<td>76.7%</td>
<td>14,117</td>
</tr>
<tr>
<td>Combined C-, D, F, Drop</td>
<td>2,218</td>
<td>23.3%</td>
<td>7,034</td>
</tr>
<tr>
<td>Mean Final Course Grade</td>
<td>2.64***</td>
<td></td>
<td>2.44***</td>
</tr>
</tbody>
</table>

*** Significant difference of means at *p<0.001*

*Note: Audits, transfer credits, incompletes, and pass/not pass grades are not included in the analyses.*

### TABLE 2: Student Success Based on Level of Participation in SI

<table>
<thead>
<tr>
<th>Level of Participation</th>
<th>Mean Final Grade</th>
<th>N</th>
<th>% of Participantsa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Participants</td>
<td>2.44</td>
<td>19,310</td>
<td>--</td>
</tr>
<tr>
<td>Students attending 1 SI Session</td>
<td>2.48</td>
<td>1,717</td>
<td>18.0%</td>
</tr>
<tr>
<td>Students attending 2-5 SI Sessions</td>
<td>2.56</td>
<td>4,836</td>
<td>50.8%</td>
</tr>
<tr>
<td>Students attending 6-9 SI Sessions</td>
<td>2.79</td>
<td>1,316</td>
<td>13.8%</td>
</tr>
<tr>
<td>Students attending 10 or more SI Sessions</td>
<td>2.99</td>
<td>1,259</td>
<td>13.2%</td>
</tr>
</tbody>
</table>

a Note that 4.1% of the SI Participants do not appear in Table 2 because they dropped out of the course. Hence, they do not have a quantifiable final grade.

### TABLE 3: Summary of Additional Participation Data

<table>
<thead>
<tr>
<th>Data Point</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of SI Sessions Offered During the Academic Year</td>
<td>3,165</td>
</tr>
<tr>
<td>Total Number of Students Attending SI</td>
<td>9,515</td>
</tr>
<tr>
<td>Total Contact Hours of SI Participants</td>
<td>47,801</td>
</tr>
<tr>
<td>Mean Number of Sessions Attended by SI Participants</td>
<td>5.0</td>
</tr>
<tr>
<td>Mean Size of SI Sessions</td>
<td>15.1</td>
</tr>
<tr>
<td>Highest Number of SI Sessions Attended by One Student for One Course</td>
<td>52</td>
</tr>
</tbody>
</table>

### Discussion and Recommendations

For seven consecutive years, annual contact hours with students in SI sessions has increased over the previous year. Consider the following changes over the same six year period:

- Increase in Total Undergraduate Enrollment: 26.0%
- Increase in Number of Students with SI Available: 101.0%
- Increase in Number of SI Participants: 120.7%
- Increase in Number of Contact Hours in SI Sessions: 164.1%

These statistics tell the story: While the university enrollment has grown,
- SI is available to far more students,
- More students (by number and rate) are participating in SI, and
- Those who participate use SI more often.

Amidst the successes, there are still challenges. The core program remains the same, but our permanent core funding peaked in FY07. While some additional, one-time funding has been given to us, we seek permanent funding to ensure the long-term stability of SI for students in targeted courses.

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1 Based on the ISU Factbook total undergraduate enrollment for Fall 2005 and fall 2013.

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Regardless of funding, we plan to make the following program improvements:

- Slight variations to our online SI references and surveys to clarify communication with students.
- Continue high expectations of SI Leaders to communicate with students in class and online, with emphasis on agendas and posting of handouts.
- Communication with Room Scheduling and the faculty/staff in partnering departments, to identify and use rooms best fit SI.
- Simplifying paperwork and administrative processes for student staff.