Supplemental Instruction (SI) was created as an academic support model which uses peer-facilitated, collaborative group sessions to improve student retention. In an effort to improve student success rates in courses that traditionally have high rates of Ds, Es and Withdrawals (DEWs) at Arizona State University (ASU), University Academic Success Programs (UASP) offers colleges/departments the opportunity to work in partnership through the Supplemental Instruction program. Outlined below is an overview of the program offered at ASU by UASP.

History of SI
In 1973, Dr. Deanna Martin developed the Supplemental Instruction (SI) model while working for the University of Missouri-Kansas City. SI is a peer-assisted study program designed to help improve student understanding of course concepts, therefore improving pass rates and course completion. The program historically targets difficult courses with a high rate of Ds, Es and Withdrawals (DEWs).

SI Support at ASU
In 2007, UASP implemented the SI program at the ASU Tempe campus, with expansion across all campuses and online. While UASP believes that every course offered at ASU could benefit from SI, its primary focus has been to target ASU courses that are large lecture and/or have consistently had high DEW rates. UASP has partnered with multiple campus colleges and departments to identify and provide ongoing support for these courses. Courses have included, but are not limited to, Chemistry, Biology, Physics, Engineering, Psychology, Math, Economics, and Accounting.

The Model
The SI model provided by UASP supports a range of small to large lecture courses by providing weekly out-of-class review sessions in smaller group settings to allow for discussion and collaborative study among students. Active participation with the material in a group setting enables students to build a framework and make more of a connection to the course content. As the SI Leader facilitates active learning and discussion about the material, students can ask questions and establish their own links to the subject matter. In addition, SI Leaders encourage student interaction as a way to develop an academic support network.

In collaboration with faculty, UASP hires SI Leaders who are current ASU students and who have previously completed the course and earned an A. SI leaders must submit an application and a faculty recommendation, complete an interview process, and participate in 10 hours of training prior to the start of their employment. SI Leaders must also have an ASU cumulative grade point average (GPA) of 3.0 or better. SI Leaders are supervised and evaluated by a full-time SI Coordinator in UASP who also provides ongoing training and development throughout each semester.
Duties of an SI Leader include:

- attending every class session and taking notes except on exam days;
- working with the faculty to obtain any course handouts, past exams, or materials;
- referencing the course Blackboard/Canvas site;
- facilitating three weekly SI sessions and developing engaging review session plans using SI techniques and processes;
- facilitating exam review sessions as necessary;
- communicating with course faculty on concepts students struggled with during SI sessions;
- attending mandatory weekly staff meetings/ongoing workshops with SI Coordinator;
- promoting and marketing SI sessions with course participants in and out of class;
- not grading exams or any course assignments; and
- not proctoring exams.

Duties of the SI Coordinator include:

- outreaching to faculty;
- hiring, training and supervising SI Leaders;
- facilitating weekly staff meetings and ongoing workshops with SI Leaders;
- preparing statistical data after one month into the semester;
- preparing mid-semester statistical data for updates;
- preparing complete end-of-semester statistical data reports about program usage;
- managing program budget; and
- providing program quality control, i.e. reviewing and providing feedback on SI Leaders’ review session plans and completing session observations.

Duties of Faculty include:

- attending 1 hour of training with SI Leaders prior to the start of the semester to meet the SI Leader; share the course syllabus, textbook, and any additional materials; add the SI Leader to the course Blackboard/Canvas site; and discuss projected student needs;
- allowing the SI Leader to make a short presentation during class time/provide a PowerPoint marketing slide throughout the semester;
- regularly communicating with the SI Leader regarding course material and student needs; and
- providing feedback to the SI Coordinator regarding any issues that might develop during the semester.

**Difference between Formats of SI and Tutoring provided by UASP**

**SI**
- Regularly scheduled sessions for a specific course (3 per week) that include:
  - Discussions of course concepts
  - Comparison of course notes to identify gaps in student knowledge

**Tutoring**
- Available on a drop-in basis
- Small group
- Problem-based
- Based on individuals’ questions
Collaborative group discussion for exam preparation
- Focused on larger course concepts and their applications
- Based on cooperative learning strategies
- Tailored to support a specific instructor’s course
- Sessions limited to 50 minutes
- SI Leader feedback loop with course instructor

- Designed to serve students from a variety of instructors’ course sections
- Session times are limited by tutors’ schedules of availability.

Data
Course Pass Rate
At the completion of each semester, UASP analyzes the data and provides faculty with a report that outlines the following for their SI-supported course:

- Course utilization rate of SI by students
- Course grade comparison of SI participants and non-participants
- Course withdrawal rate comparison of SI participants and non-participants

Sample data for 11 SI-supported courses is provided below – 5 from Poly in blue, 5 from Tempe in yellow, and 1 from West in green. The data shows the following:

- SI participants have a higher pass rate than non-SI participants.
- SI participants earn a higher course GPA than non-SI participants.
- SI participants are less likely to withdraw from the course than are non-SI participants.

Table 1: Supplemental Instruction Impact Data for Selected Courses at the Polytechnic, Tempe, and West Campuses
Retention Rates
At the end of each academic year, UASP works with ASU’s Institutional Analysis Office to look at the potential impact of SI on First Time Full Time Freshman (FTFTF) retention rates. The data does show that the user group (students who attend SI sessions) are retained at a much higher rate. For academic year 2016-2017, there was a difference of 7.4 percentage points higher for the user group when compared to the non-user group. The table below outlines the data in more detail.

Table 2: Comparison of Retention Rates of Supplemental Instruction Users and Non-SI Users

<table>
<thead>
<tr>
<th>CI Group</th>
<th>Total</th>
<th>Used SI</th>
<th>Did Not Use SI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Returning</td>
<td>%</td>
</tr>
<tr>
<td>129 - 146</td>
<td>1,452</td>
<td>1,357</td>
<td>93.50%</td>
</tr>
<tr>
<td>121 - 128</td>
<td>1,663</td>
<td>1,502</td>
<td>90.30%</td>
</tr>
<tr>
<td>111 - 120</td>
<td>2,600</td>
<td>2,268</td>
<td>87.20%</td>
</tr>
<tr>
<td>108 - 110</td>
<td>893</td>
<td>732</td>
<td>82.00%</td>
</tr>
<tr>
<td>103 - 107</td>
<td>1,131</td>
<td>913</td>
<td>80.70%</td>
</tr>
<tr>
<td>94 - 102</td>
<td>1,443</td>
<td>1,095</td>
<td>75.90%</td>
</tr>
<tr>
<td>86 - 93</td>
<td>770</td>
<td>572</td>
<td>74.30%</td>
</tr>
<tr>
<td>&lt; 86</td>
<td>130</td>
<td>96</td>
<td>73.80%</td>
</tr>
<tr>
<td>No Index</td>
<td>1,374</td>
<td>1,153</td>
<td>83.90%</td>
</tr>
<tr>
<td>Total</td>
<td>11,456</td>
<td>9,688</td>
<td>84.60%</td>
</tr>
</tbody>
</table>

Financial model
UASP offers SI Leaders a competitive pay rate in order to attract and recruit a qualified applicant pool of student applicants. The current pay rate is $16.00 per hour. Colleges/departments are charged $2,716.06 per SI-supported course. The cost breakdown is as follows:

<table>
<thead>
<tr>
<th>Pay Rate</th>
<th>*Hrs./Wk</th>
<th>Wks./Semester</th>
<th>Subtotal</th>
<th>**ASU Admin. Charges</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>$16.00</td>
<td>10 hours</td>
<td>16 weeks</td>
<td>$2,560.00</td>
<td>13.45%</td>
<td>$2,915.09</td>
</tr>
</tbody>
</table>

*Breakdown of SI Leader hours per week:
- 3 hours of class attendance
- 3 hours of review sessions
- 3 hours of preparation and planning time
- 1 hour staff meetings/ongoing workshops

**ASU administrative charges include: Administrative Service Charge (ASC) 8.5%, Risk Management 1.1%, NetCom 1.85%, and ERE 2%**

UASP in-kind financial contributions include the SI Coordinator’s salary, the cost of SI Leader training hours, and program supplies (paper, computers, ink, printer, etc.).
How can I work with UASP to offer SI support for my courses?
UASP is willing to partner with any college/department to do the following:

- discuss pass, fail, and withdrawal rates for courses;
- review data to identify issues that may be affecting students’ success in the course(s); and
- determine if SI is a viable solution.

To discuss the possibility of SI support for your courses, please contact:

Rhonda Rumble, UASP Associate Director  or  Caitlin Simpson, SI Program Manager
Rhonda.Rumble@asu.edu  or  Caitlin.M.Simpson@asu.edu
480-965-9172  or  480-727-5391