



Supplemental Instruction (SI) is an academic support program that utilizes peer assisted study group sessions. SI targets traditionally difficult academic courses and provide regular scheduled, out-of-class review sessions. SI sessions are group discussions in which students compare notes, discuss readings, develop organizational tools and predict test items. Attendance is voluntary. However, students who regularly attend SI sessions earn a higher grade (half to one letter grade higher) at the end of the semester.

The 2011-2012 academic year SI was linked with 14 courses and served 783 unique students and nearly 3,600 student visits. Analysis of student performance data through Office of Institutional Effectiveness (OIE) continues to substantiate the effectiveness of SI as an academic support system in high failure rate classes.

Major Accomplishments

- Established SI bookmarks and specific SI Course Criteria Selection
- Received \$2,800 in Parent Association funding for SI outreach/material
- Implemented iPads, Applications (APPS) and hands-on models in SI Sessions
- Collaborated with Biology Department and recruited two additional SI Courses for Fall 2012
- SI notation was added to the Schedule of Courses to advise students of the availability of SI for specific courses

ANNUAL REPORT ▪ 2011-2012



**“Tell me and I will forget;
show me and I may
remember; involve me
and I will understand.”**

~ Chinese Proverb

**This program supports the
Strategic Plan for Excellence III:
2006-2011 in providing services for
high failure rate courses,
improving academic preparation
and enhancing student success.**

This year SI was linked with 14 courses: Biology 20, 64, 65; Math 45, 75; Physics 2A and Political Science 2. SI also collaborated with the Office of Institutional Effectiveness (OIE) to assess program effectiveness. **The following report will demonstrate the impact SI has had with the faculty and students it has worked with during 2011-2012.**

Assessment Activities

- Identify the referral source, outreach, and number of visits
- Identify the “SI Students”: class standing, gender, and ethnicity
- Identify the “SI Sessions”: top focus during SI sessions
- Identify fall 2011 and spring 2012 data analysis: GPA comparison vs. number of SI sessions, DFW rates and difference significant for SI courses

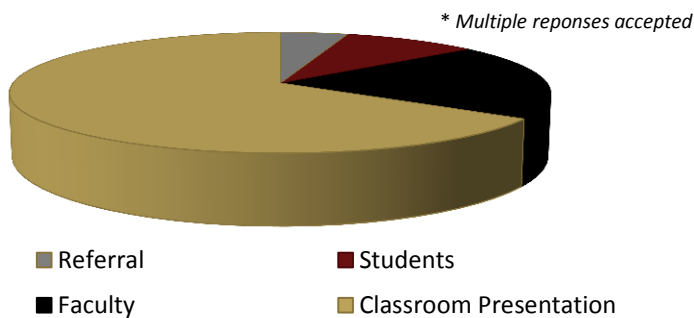
Areas of Emphasis (SI Goals for 2012-2013)

- Program sustainability
- Program Expansion: link SI with 28 courses by 2015
- Increase Attendance Rate
- Increase faculty communication and attract new faculty

High Failure Rate Courses ▪ Academic Preparation ▪ Student Success

Outreach presentations take place throughout the entire semester by SI Leaders, faculty and SI Supervisor. During the first week of instruction students are encouraged to take the Beginning of Semester SI Survey which identifies the students' schedule. SI sessions are scheduled base on students' and SI Leaders' availability. Once the schedule is established, both SI leader and faculty member promote SI sessions through emails, Blackboard, in class presentations and office hours.

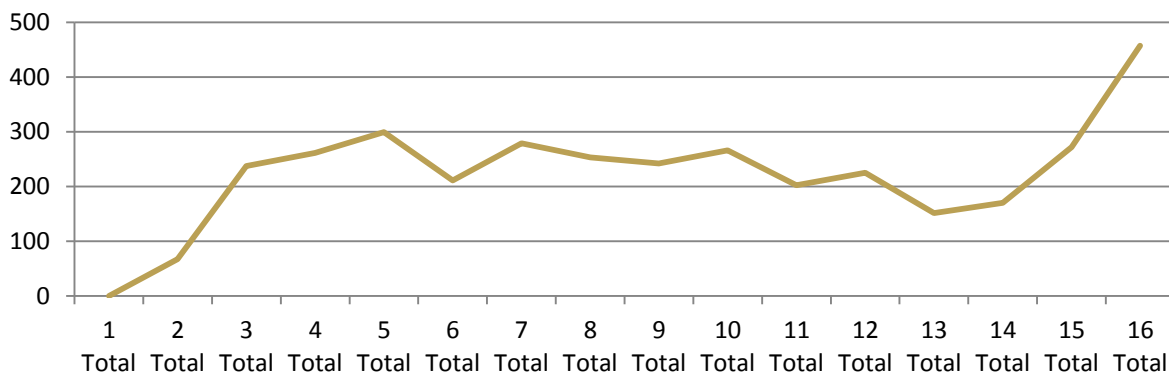
Figure 1: Referral Sources



Majority of the SI students who attended SI sessions are tied to classroom presentations, as illustrated in figure 1.

The SI Sessions start on the second full week of instruction (usually around week 3). Total visits remained steady after weeks 1-2 with the exception of weeks 6, 11, and 13 (usually after exam weeks). SI received over 20% of total visits during weeks 15-16 of the semester. SI makes every effort to increase attendance by accommodating the SI sessions schedule. Unfortunately, if attendance is low between weeks 7-9, the SI sessions are cancelled.

Figure 2: Visits by Week of Semester





THE SI STUDENTS

Snapshots of users by **Class Standing**, **Gender** and **Ethnicity** for AY 2011-2012:

Straight from Fresno State Students:

“From attending supplemental instruction sessions, I was able to raise my grade from a 56% to a 76%. I was very pleased with the outcomes of this grade because this material is very hard for me to retain and SI helped tremendously.” ~ Bio 20 Student

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I have been going regularly this semester and so far have been doing great in class. I will definitely continue to utilize the SI sessions.
~ Math 45 Student

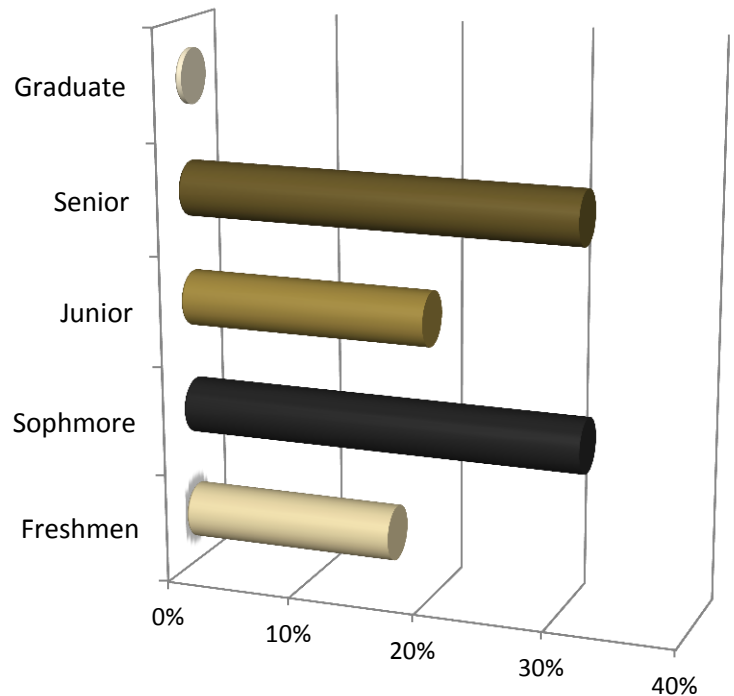
▪

“He encourages questions and creates an atmosphere where the students aren't hesitant to ask questions, regardless how ‘stupid’ the question is.” ~ Math 75 Student

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“... extremely helpful and [SI Leader] was very good at making us do fun worksheets and games.”
~ PoliSci 2 Student

Figure 1: Class Standing



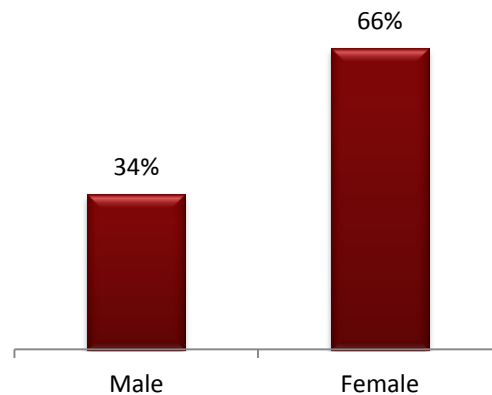
The majority of students who utilize the SI Program are sophomores (31.6%) and seniors (31.4%) followed by juniors (19.5%), freshmen (16.8%) and graduates (0.7%).

QUICK FACT

**SI LEADERS GENDER STATUS:
3 FEMALES AND 3 MALES**

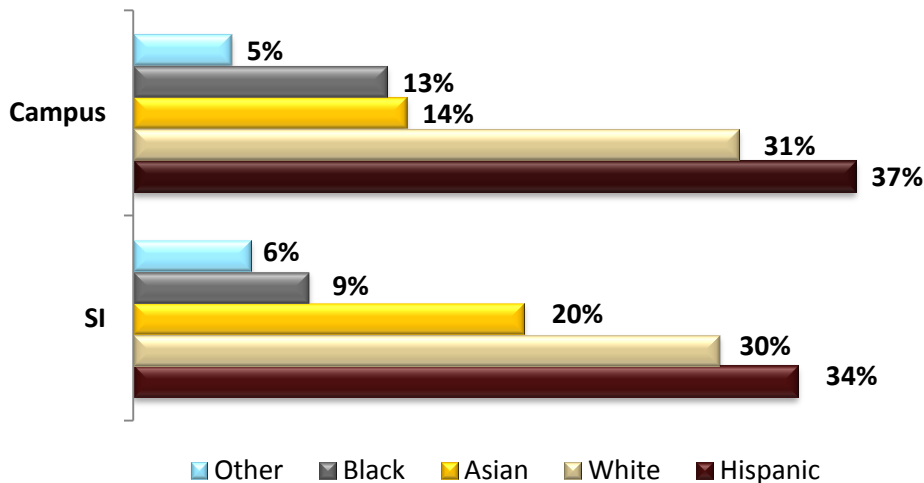


Figure 3.2: Gender



Majority of SI students are female, 32% higher than male, refer to figure 3.2.

Figure 3.3: Ethnicity



SI students are primarily comprised of Hispanic (34%), White (30%), and other ethnicities (35%), see figure 3.3. Overall the ethnic breakdown of students who utilize the service is similar to that of the entire campus.

TOP FOCUS DURING SI SESSIONS:



HANDS-ON: Games, activities, worksheets, boardwork, group work, pair-share and much more!



LEARNING STYLES: sessions are moded to meet various learning needs - Visual, Kinesthetic, Auditory and Read/Write



TECHNOLOGY: Different learning modalities (e.g. use of iPads and APPS)



SI MODELS: Implement Bloom's Taxonomy, Socratic Methods and Appreciative Education Models to enhance critical thinking and collaborative learning

SI IS ABOUT ACTIVE LEARNING

“INVOLVE ME AND I WILL UNDERSTAND.”

BREAKING THE DEPENDENCY CYCLE

The SI Leaders practice and promote collaborative learning during SI Sessions. In collaborative learning, **students are responsible for each other's learning as well as for their own.** Collaborative learning creates interest, increases social skills and promotes critical thinking among the students of the group.



Figure 4: SI with 0, 1-2 and 3+ Group Comparison in All Courses (COMBINED)

	SI Group: 0 Sessions 1100		SI Group: 1-2 sessions 170		SI Group: 3+ sessions 202		Total 1472	
Grade	Number	Percent	Number	Percent	Number	Percent	Number	Percent
A	190	17%	35	21%	45	22%	270	18%
B	260	24%	31	18%	44	22%	335	23%
C	274	25%	48	28%	69	34%	391	27%
D	119	11%	20	12%	31	15%	170	12%
F	242	22%	32	19%	13	6%	287	19%
W/U	2	99%	1	1%	0	0%	3	0%
Combined A, B, & C	1087	98.82%	167	98.24%	202	100.00%	1456	98.91%
Combined D, F, & W/U	363	33.00%	53	31.18%	44	21.78%	460	31.25%
Grade Point Average	2.03		2.09		2.72		2.09	
I, NC, CR	2	0%	0	0%	0	0%	2	0%
W	11	1%	3	2%	0	0%	14	1%
Totals							Number	Percent
Total Graded Enrollment							1456	99%
Total Incomplete (I), Non-Credit (NC), Credit (CR), and Withdrawal (W)							16	1%
Total Enrollment							1472	
Total Number and Percentage of Students Attending SI							372	25%
Total Contact Hours of SI Participating Students							1846	

4-point scale

Difference from SI (3+ sessions) to SI (0 sessions)

0.69

Difference from SI (3+ sessions) to SI (1-2 sessions)

0.63

Difference from SI (1-2 sessions) to SI (0 session)

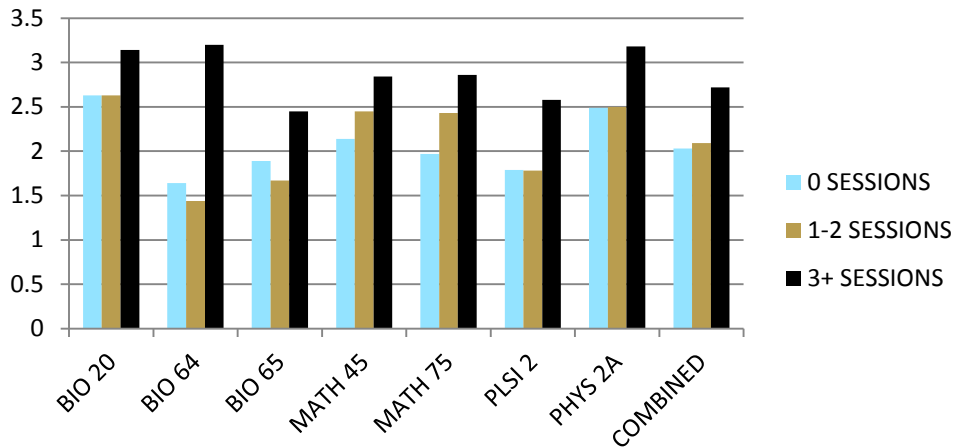
0.06

OIE ran a T-Test to determine significance. The difference between mean grades for all courses combined was statistically significant at the .05 level.

SI served 372 unique students and 202 students with 3+ sessions. As noted in figure 4, students who attended SI Sessions for 3+ sessions had a **higher mean final course grade** of more than half letter grade. In comparison, students who consistently attended SI sessions continued to achieve a higher mean final course grade (2.72) than those who do not attend (2.03). The number of students who received a grade of “D” or “F” or withdrew from the course was lower for students who attended SI Sessions (21.78%) than those for who did not (33%).

Individual data regarding the performance of the 7 courses is included below:

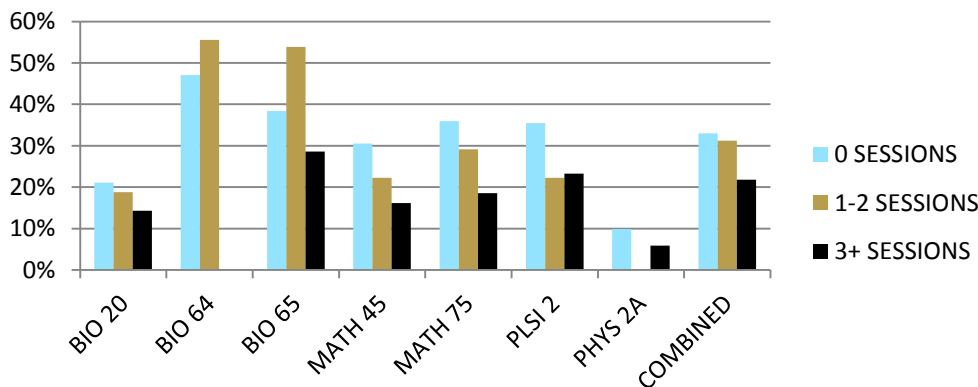
Mean Final Course Grade Comparison by Class Fall 2011



A follow up T-Test was conducted to determine if the difference between the means was significant. In this case, the difference is significant between the following SI Groups in each course:

- SI Group with 3+ sessions to SI Group with 0 sessions – Significant in ALL COURSES
- SI Group with 3+ sessions to SI Group with 2 sessions – Significant in ALL COURSES
- SI Group with 1-2 sessions to SI Group with 0 sessions – Significant in Math 45 and Math 75

DFW Rate Comparison by Class Fall 2011



The DFW Rates of COMBINED courses reflected the ideal model with **0 SESSIONS (HIGHEST RATE)**, **1-2 SESSIONS (SLIGHTLY LOWER RATE)**, and **3+ SESSIONS (LOWEST RATE)**. However, not all of the courses reflected this model when compared by each course subject.

Figure 5: SI with 0, 1-2 and 3+ Group Comparison in All Courses (COMBINED)

Grade	SI Group: 0 Sessions 915		SI Group: 1-2 Sessions 185		SI Group: 3+ Sessions 226		Total 1326	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
A	115	13%	24	13%	60	27%	199	15%
B	201	22%	44	24%	72	32%	317	24%
C	254	28%	62	34%	59	26%	375	28%
D	111	12%	24	13%	22	10%	157	12%
F	219	24%	28	15%	12	5%	259	20%
W/U	0	98%	0	0%	0	0%	0	0%
Combined A, B, & C	900	98.36%	182	98.38%	225	99.56%	1307	98.57%
Combined D, F, & W/U	330	36.07%	52	28.11%	34	15.04%	416	31.37%
Grade Point Average	1.87		2.07		2.91		2.03	
I, NC, CR	3	0%	0	0%	0	0%	3	0%
W	12	1%	3	2%	1	0%	16	1%
Totals							Number	Percent
Total Graded Enrollment							1307	99%
Total Incomplete (I), Non-Credit (NC), Credit (CR), and Withdraw (W)							19	1%
Total Enrollment							1326	
Total Number and Percentage of Students Attending SI							411	31%
Total Contact Hours of SI Participating Students								
Average Number of Students Attending Each SI Session								

4-point scale

Difference from SI (3+ sessions) to SI (0 session)

1.04

Difference from SI (3+ sessions) to SI (1-2 sessions)

0.85

Difference from SI (1-2 sessions) to SI (0 session)

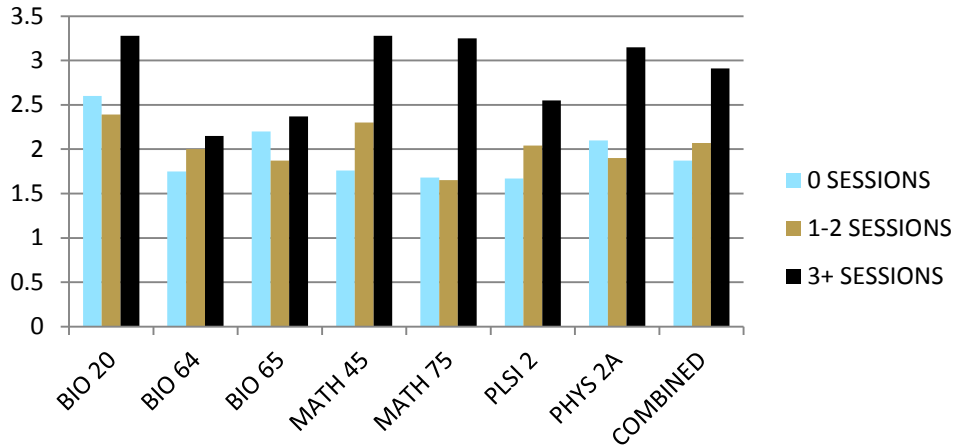
0.20

OIE ran a T-Test to determine significance. The difference between **mean grades** for all courses combined was statistically significant at the .05 level.

SI served 411 unique students and 226 students with 3+ sessions. Student performance data through Office of Institutional Effectiveness (OIE) continues to demonstrate the effectiveness of the SI Program. Students who attended 3+ sessions had a **higher mean final course grade** (2.91) than those who do not attend (1.87), see figure 5. The number of students who received a grade of “D” or “F” or withdrew from the course was lower for students who attended SI (15.04%) than those for who did not (36.07%).

Individual data regarding the performance of the 7 courses is included below:

Mean Final Course Grade Comparison by Class Spring 2012



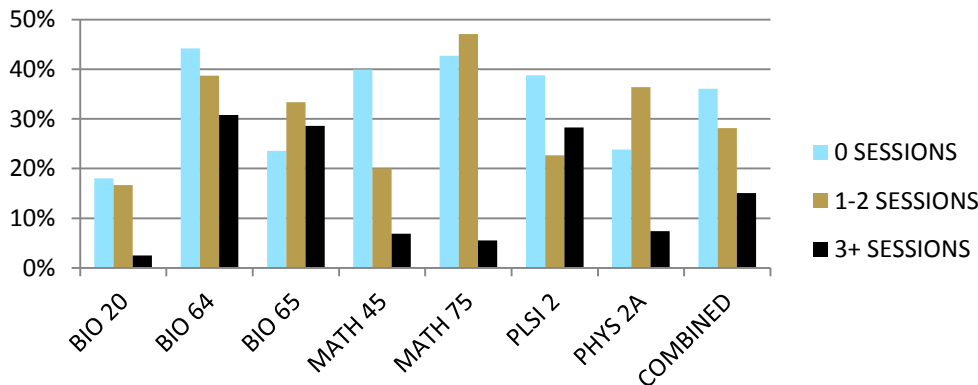
A follow up T-Test was conducted to determine if the difference between the means was significant. In this case, the difference is significant between the following SI Groups in each course:

SI Group with 3+ sessions to SI Group with 0 sessions – Significant in ALL COURSES

SI Group with 3+ sessions to SI Group with 2 sessions – Significant in ALL COURSES

SI Group with 1-2 sessions to SI Group with 0 sessions – Significant in Biology 64, Math 45, and Political Science 2

DFW Rate Comparison by Class Spring 2012



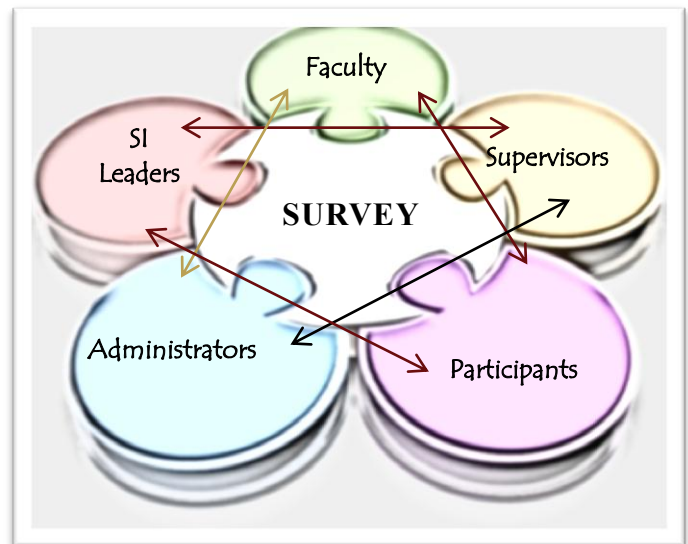
The DFW Rates of COMBINED courses continued to reflect the ideal model with **0 SESSIONS (HIGHEST RATE)**, **1-2 SESSIONS (SLIGHTLY LOWER RATE)**, and **3+ SESSIONS (LOWEST RATE)**. However, not all of the courses reflected this model when compared by each course subject.

Faculty Feedback Survey

All faculty indicated that they had strong communication with their individual SI leader throughout the course of the semester. Majority of the faculty also noted that SI Leaders clarified his/her understanding of course material and discussed about class expectations with them.

DIRECT QUOTES:

- *“I am very happy with the program for my four PL SI-2 classes this past semester (both its administration and results). Leighann is a super SI [Leader] and the students all like her; we spoke each week about her progress. She was also flexible about adding a couple of sessions just before the exams (there are four tests/semester).”*
– Dr. Dennis Driggers, Political Science 2 Instructor
- *“Very satisfied; it is nice for students to have such a valuable source of tailored help for this course.”*
– Dr. Katherine Kelm, Math 75 Instructor
- *“I have worked with Alex for a few years now. The students who attend SI say he is very helpful to them.”*
– Dr. Larry Cusick
- *“Excellent program, a great help to students.”* – Dr. Judy Haber, Biology 20 Instructor
- *“I am quite satisfied but that is because I have had a very good SI Leader.”*
– Dr. Paul Kryder, Math 45 Instructor



End of the Year Student Survey

The majority of those students who did not attend SI sessions reported that they did not attend due to schedule conflicts or because they did not feel like they needed the help. Students also indicated that they would attend a program like SI if their schedule permitted for them to attend and would “like more convenient session times.”

Those students who attended SI sessions, 86% reported that they attended sessions to gain a better understanding of the course material and improve their grade. Eighty-eight percent (88%) agreed or strongly agreed that SI helped improve academic.

Ninety-eight percent (98%) of the students who attended SI Sessions reported that SI helped them with one or more study skills or techniques.

The vast majority of students who attended SI sessions indicated that they would attend SI sessions in the future if they were offered in another class. One student stated “Yes, because it improved my test scores!”

FUTURE GOALS AND DEVELOPMENT FOR 2012-13

Program Sustainability

- Continue to work to obtain permanent funding through the Instructionally Related Activity (IRA) fee
- Secure a permanent SI Coordinator position
- Collaborate with outside funding sources, including grants

Program Expansion

- Over the next three years, the goal of SI is to increase the percentage of students who participate in SI from 25% (current) to 60% in 2015. In fall 2011, there were 372 unique student users. By 2015, the projection is over 2700 unique student users, refer to figure 6.
 - Fall 11-Spring 12: 14 course subjects
 - Fall 12-Spring 13: 20 course subjects
 - Fall 13-Spring 14: 22 course subjects
 - Fall 14-Spring 15: 28 course subjects

Increasing SI Attendance

- Increase in faculty direct involvement (i.e. announcement, exam grade reports to SI Coordinator, placing SI Labels on graded exams)
- Increase outreach activities by SI Leaders and SI Coordinator (weekly email reminders and in-class presentations)
- More convenient session times - implement SI Leader Office Hours
- Implement SI signage at session locations

Quality and Analysis of SI

- Implement tools and techniques retrieved from University of Missouri-Kansas City (UMKC): 7th International Supplemental Instruction Conference
- Continue to increase the use of iPads, technology and hands-on models to increase the quality of SI sessions for future SI sessions
- Continue to work with OIE to improve program analysis
- Attend SI Supervisor Trainings through UMKC

Criteria Guideline of an SI course

- Implement Criteria Selection when recruiting new SI Courses, see figure 7:
 - High Failure Rates & High Repeat Courses
 - High Enrollment & Gateway courses (Pre-Business, Pre-Nursing and Engineering)
 - Pre-established SI courses do not need to meet the selection criteria each semester
 - This guideline will be used for future SI Course selection

Percentage of Participating Students

Figure 6: Projection

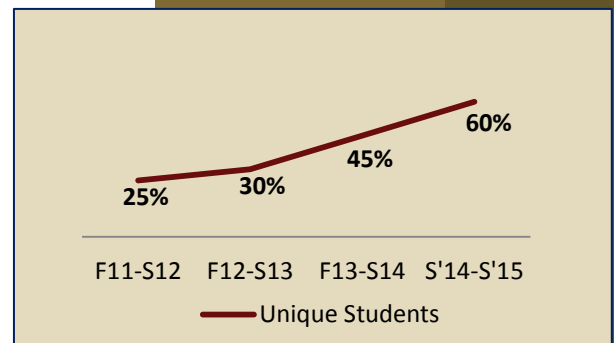
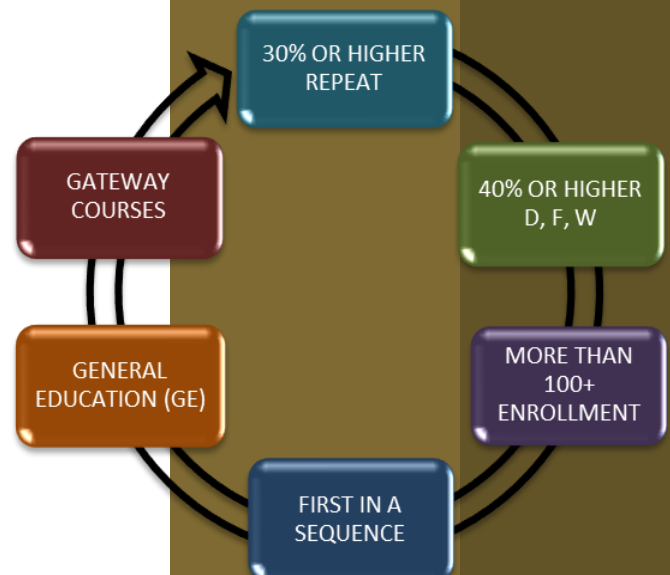


Figure 7: Criteria Selection

Must meet 3 or more Criteria



Snapshot of Funding

SI received funding from **Parent Association** for AY 2011-2012. The primary focus of the grant was to increase the quality of SI sessions, promote outreach and communication to students. Funding supported the purchase of **5 iPads** and **3 graphing calculators** which have a direct impact for both student users and SI leaders involved in the SI Program.



IPAD

Communication

- * Increased communication between students and SI Leaders through emails (i.e. reminders)
- * Increased interaction through Blackboard with supervisor, faculty and students
- * Served 783 unique students and nearly 3,600 visits

Multimedia Learning

- * Applied Applications (APPS) and different learning modalities through multimedia learning
- * 88% of students surveyed *Strongly Agreed* or *Agreed* that SI helped improve academic
- * Students who consistently attended SI sessions achieve a higher mean final course grade than those who do not attend (Fall 2011: 2.72 vs 2.03; Spring 2012: 2.91 vs 1.87)

TI-89 GRAPHING CALCULATOR

AVAILABILITY

- * Accessible to SI students from Math 45 & 75 during SI sessions
- * Provided and promoted opportunities and learning for students with no access to a calculator during SI sessions
- * Increased group activities, stations and self-independency.

DIRECT QUOTES FROM SI STUDENTS AND SI LEADERS

* SPELLING CORRECTED

- ❖ *"I incorporated iPad in my [SI] sessions by showing animations, pictures, etc. It was a challenge in the past trying to explain certain parts of microbiology and how it works through drawings to facilitate their [students] understanding. For example, explaining the DNA replication, transcription, and translation process from the transduction and conjugation process for visual learners. It's not the same as trying to draw a picture from actually seeing the animation and the way it works. With the iPad, it was easier for the students to see the animation and try to put it in their "own" words because students learn best by putting the materials in their own words."* – Maricarmen, SI Leader
- ❖ *"As a second semester Nursing student, my schedule is very demanding and it is difficult to stay organized. The iPad helped me keep my SI material organized. It also helped me be more creative with my games, worksheets, and warm ups. I used the APPS to help the students to get more involved and to enhance their learning experience."* – Erika, SI Leader
- ❖ *"I love the iPad with the APPS! On one of the APPS we were able to view layers by layers the human anatomy."* – SI Student
- ❖ *"We worked in groups and [SI Leader] passed out graphing calculators if we don't have a calculator."* – SI Student
- ❖ *"I used the iPad when discussing new material; I would show them a visual demonstration of something happening and ask them to think-pair-share why they think those objects are interacting in that way."* – Derek, SI Leader

2011-12 Summary

SI had a successful year and a direct impact on the Fresno State campus. There was an increase in the percentage of students taking advantage of SI. Efforts will be made to continue to increase student attendance, improve the training program for SI leaders and increase communication with participating faculty members.

Analysis of student performance data through Office of Institutional Effectiveness (OIE) consistently validates the effectiveness of SI as an academic support system in high failure rate classes. SI will continue to work with OIE to study the impact of SI on student success.

Challenges
Lack of Professional Staff
Low Student Attendance



In the spring, SI participated in Secret Shopper Evaluation which ensures that SI Leaders (student employees) gain adequate feedback on their work performance as it pertains to customer service. SI Leaders were recognized as disarming, knowledgeable, helpful and creative in the SI sessions. SI staff also participated in the 7th International Conference on Supplemental Instruction in San Diego, CA. The conference will directly benefit the current training program for SI Leaders.

A couple of the challenges faced this year include having a lack of professional staff. The SI Program is currently coordinated by an Academic Support Advisor; the position focuses on SI and SupportNet. Another challenge is student attendance. Although outreach presentations were made directly in courses offering SI, only 30% of the students participated in the program. Increasing student attendance will be among the top priority for academic year 2012-2013.

SUPPLEMENTAL INSTRUCTION (SI) – “TOGETHER WE CAN MAKE A DIFFERENCE.”

Acknowledgements

This report was compiled by Mai Kou Vang, Academic Support Advisor & SI Supervisor with the assistance of data gathered from Office of Institutional Effectiveness (OIE).