

**A Statistical Evaluation of the Supplemental Instruction Program
University of California Riverside, Spring 2008**

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Spring 2008's Supplemental Instruction (SI) program evaluation follows two previous evaluations conducted in falls 2006 and 2007 that determined the program's effectiveness. This evaluation's template is established from the original report in 2006. To view the fall 2006 full report as well as 2007's results and receive more detailed information regarding the basic evaluation template, please go to www.irue.ucr.edu/reports/html.

In the previous evaluations, not only did SI participants in the math and science courses attend SI sessions at a higher rate compared to humanities and social science participants, but these participants also statistically significantly earned higher course grades than their counterpart. Hence in spring 2008 SI course support focused primarily in math and science. A list of courses SI supported can be found in Table 1. Expectedly, the average SI participation rate in spring 2008 increased by twelve percentage points (41% vs. 29% in fall 2007).

A simple overview of the spring 2008 findings reveal that participation in the SI program continues to positively affect student's course grade. Results show that participants of the program could expect nearly a quarter grade point increase to their overall course grade; past participants could expect roughly a one-third of a grade point boost (Table 3).

As in previous analyses participation in Biology and Chemistry SI sessions remain relatively high and significantly impact course grade performance, with exception to Chemistry 112C (no longer statistically significant in spring 2008 as it was in fall 2007). Notably, SI participants in Math 5 and 8A show a higher course grade effect when compared to previous analyses for the same courses; in this case, SI participants could expect to increase their grade by nearly one whole letter grade.

Overall, the Supplemental Instruction program continues to successfully help participants raise their course grade performance.

Table 1: Variable Definitions

Course Grade	End of fall term grade received: A+/A = 4.00, A- = 3.70, B+ = 3.30, B = 3.00 S = 2.00, and F = 0.00
Supplemental Instruction Participant (SIP)	1 if participated; 0 otherwise
Contact Hours (HRS)	Number of hours a student attended an S.I. session
Gender	1 if female; 0 if male
African American	1 if African American; 0 else
Native American	1 if Native American; 0 else
Hispanic	1 if Hispanic; 0 else
Asian/P.I.	1 if Asian/P.I.; 0 else
Caucasian	1 if Caucasian; 0 else
Other	1 if Other; 0 else
Freshmen	1 if Freshmen; 0 else
Sophomore	1 if Sophomore; 0 else
Junior	1 if Junior; 0 else
Senior/5th yr+	1 if Senior/5th yr+; 0 else
CHASS	1 if CHASS; 0 otherwise
CNAS	1 if CNAS; 0 otherwise
BCOE	1 if BCOE; 0 otherwise
First Generation Status	1 if either Parent Education LE no 4-yr degree received; 0 GE 4-yr degree or higher
Low Income Status	1 if Parental Income LE \$30K; 0 otherwise
High School GPA	GPA score
SAT Verbal	SAT Verbal score
SAT Math	SAT Math score
Biology 5B	1 if fall course enrolled in Biology 5B; 0 otherwise
Chemistry 1B	1 if fall course enrolled in Chemistry 1B; 0 otherwise
Chemistry 1C	1 if fall course enrolled in Chemistry 1C; 0 otherwise
Chemistry 112B	1 if fall course enrolled in Chemistry 112B; 0 otherwise

Chemistry 112C	1 if fall course enrolled in Chemistry 112C; 0 otherwise
Math 4	1 if fall course enrolled in Math 4; 0 otherwise
Math 5	1 if fall course enrolled in Math 5; 0 otherwise
Math 8A	1 if fall course enrolled in Math 8A; 0 otherwise
Math 8B	1 if fall course enrolled in Math 8B; 0 otherwise
Math 9A	1 if fall course enrolled in Math 9A; 0 otherwise
Math 9B	1 if fall course enrolled in Math 9B; 0 otherwise
Math 9C	1 if fall course enrolled in Math 9C; 0 otherwise
Math 22	1 if fall course enrolled in Math 22; 0 otherwise
Physics 2A	1 if fall course enrolled in Physics 2A; 0 otherwise
Physics 2C	1 if fall course enrolled in Physics 2C; 0 otherwise

**Table 2: Descriptive Statistics
Mean (Std. Dev.)**

	SIP Mean (Std. Dev.)	Non - SIP Mean (Std. Dev.)
Course Grade	2.30 (1.02)	2.10 (1.19)
Gender	0.58 (0.49)	0.46 (0.50)
African American	0.08 (0.26)	0.07 (0.26)
Native American	0.00 (0.03)	0.00 (0.05)
Hispanic	0.21 (0.41)	0.23 (0.42)
Asian/P.I.	0.58 (0.49)	0.53 (0.50)
Caucasian	0.12 (0.32)	0.14 (0.35)
Other	0.02 (0.13)	0.03 (0.16)
Freshmen	0.42 (0.49)	0.40 (0.49)
Sophomore	0.40 (0.49)	0.39 (0.49)
Junior	0.15 (0.36)	0.16 (0.37)
Senior/5th yr+	0.03 (0.16)	0.05 (0.21)
CHASS	0.11 (0.31)	0.24 (0.43)
CNAS	0.82 (0.39)	0.62 (0.49)
BCOE	0.07 (0.26)	0.14 (0.35)
First Generation Status	0.49 (0.50)	0.47 (0.50)
Low Income Status	0.39 (0.49)	0.38 (0.49)
On Campus	0.47 (0.50)	0.44 (0.50)

High School GPA	3.50 (0.36)	3.45 (0.39)
SAT Verbal	495 (82.20)	512 (83.73)
SAT Math	543 (83.30)	567 (89.29)
Biology 5B	0.12 (0.33)	0.07 (0.25)
Chemistry 1B	0.16 (0.37)	0.07 (0.26)
Chemistry 1C	0.13 (0.34)	0.12 (0.33)
Chemistry 112B	0.12 (0.33)	0.07 (0.26)
Chemistry 112C	0.03 (0.18)	0.04 (0.21)
Math 4	0.01 (0.11)	0.06 (0.24)
Math 5	0.02 (0.13)	0.04 (0.19)
Math 8A	0.01 (0.11)	0.01 (0.10)
Math 8B	0.01 (0.12)	0.04 (0.19)
Math 9A	0.02 (0.15)	0.07 (0.26)
Math 9B	0.14 (0.35)	0.11 (0.32)
Math 9C	0.03 (0.18)	0.07 (0.26)
Math 22	0.01 (0.12)	0.07 (0.25)
Physics 2A	0.09 (0.29)	0.07 (0.26)
Physics 2C	0.07 (0.26)	0.07 (0.26)

**Table 2.1: Descriptive Statistics
Mean (Std. Dev.)**

	SIP Mean (Std. Dev.)
Gender = 1 (Female)	0.47 (0.50)
Gender = 0 (Male)	0.35 (0.48)
African American	0.43 (0.50)
Native American	0.25 (0.46)
Hispanic	0.39 (0.49)
Asian/P.I.	0.44 (0.50)
Caucasian	0.37 (0.48)
Other	0.32 (0.47)
Freshmen	0.42 (0.49)
Sophomore	0.42 (0.49)
Junior	0.39 (0.49)
Senior/5th yr+	0.27 (0.45)
CHASS	0.24 (0.43)
CNAS	0.48 (0.50)
BCOE	0.26 (0.44)

Table 3: Course Grade Regression (SIP)

	B (Std. Error)	B (Std. Error)	B (Std. Error)
SIP	0.20* (0.04)	0.24* (0.03)	0.23* (0.04)
Gender		-0.07* (0.04)	-0.06 (0.03)
African American		-0.00 (0.13)	0.03 (0.13)
Native American		-0.32 (0.42)	-0.27 (0.41)
Hispanic		0.01 (0.12)	0.01 (0.11)
Asian/P.I.		0.04 (0.11)	0.04 (0.11)
Caucasian		0.17 (0.12)	0.17 (0.12)
Freshmen		-0.07 (0.09)	-0.05 (0.09)
Sophomore		-0.03 (0.09)	-0.02 (0.09)
Junior		0.03 (0.09)	0.01 (0.09)
High School GPA		0.62* (0.05)	0.63* (0.05)
SAT Verbal		0.00 (0.00)	0.00 (0.00)
SAT Math		0.00* (0.00)	0.00* (0.00)
First Generation Status		0.05 (0.04)	0.05 (0.04)
Low Income Status		-0.10* (0.04)	-0.10* (0.04)
On Campus		0.10 (0.04)	0.11* (0.04)
Biology 5B			-0.58* (0.09)
Chemistry 1B			0.15 (0.09)

Chemistry 1C			-0.04 (0.08)
Chemistry 112B			-0.12 (0.08)
Chemistry 112C			-0.26* (0.10)
Math 4			-0.18 (0.11)
Math 5			-0.82* (0.12)
Math 8A			-0.38* (0.17)
Math 8B			-0.55* (0.13)
Math 9A			-0.36* (0.10)
Math 9B			-0.35* (0.09)
Math 9C			-0.09 (0.10)
Math 22			0.31* (0.10)
Physics 2A			-0.23* (0.09)
Constant	2.10* (0.02)	-1.22* (0.25)	-1.12* (0.26)

* Indicates statistically significant at the 0.05 level (two-tailed).

Table 4: Course Grade Regression (SIP HRS)

	B (Std. Error)	B (Std. Error)	B (Std. Error)
SIP HRS	0.01* (0.00)	0.01* (0.00)	0.01* (0.00)
Gender		-0.11* (0.05)	-0.10* (0.05)
African American		-0.27 (0.20)	-0.23 (0.19)
Native American		-1.07 (0.99)	-1.46 (0.95)
Hispanic		-0.33 (0.19)	-0.29 (0.18)
Asian/P.I.		-0.24 (0.19)	-0.16 (0.18)
Caucasian		-0.05 (0.20)	0.01 (0.19)
Freshmen		0.24 (0.15)	0.08 (0.16)
Sophomore		0.24 (0.15)	0.20 (0.15)
Junior		0.26 (0.16)	0.25 (0.15)
High School GPA		0.48* (0.07)	0.53* (0.07)
SAT Verbal		0.00 (0.00)	0.00 (0.00)
SAT Math		0.00* (0.00)	0.00* (0.00)
First Generation Status		0.11* (0.06)	0.11* (0.05)
Low Income Status		-0.14* (0.06)	-0.12* (0.05)
On Campus		0.09 (0.05)	0.09 (0.05)
Biology 5B			-0.49* (0.11)
Chemistry 1B			0.53* (0.12)

Chemistry 1C			0.09 (0.12)
Chemistry 112B			0.12 (0.11)
Chemistry 112C			-0.30* (0.15)
Math 4			-0.04 (0.23)
Math 5			-0.11 (0.20)
Math 8A			0.23 (0.22)
Math 8B			-0.49* (0.22)
Math 9A			0.03 (0.18)
Math 9B			-0.17 (0.12)
Math 9C			0.31* (0.16)
Math 22			0.48* (0.21)
Physics 2A			-0.13 (0.12)
Constant	2.24* (0.03)	-0.64 (0.38)	-1.02* (0.38)

* Indicates statistically significant at the 0.05 level (two-tailed).

Table 5: Individual Courses (SIP)

	SIP (Std. Dev.)	HRS (Std. Dev.)	B(SIP) (Std. Error)
Biology 5B	0.55 (0.50)	7.88 (6.86)	0.20* (0.09)
Chemistry 1B	0.62 (0.49)	6.26 (6.00)	0.60* (0.11)
Chemistry 1C	0.43 (0.50)	4.11 (4.52)	0.17* (0.08)
Chemistry 112B	0.53 (0.50)	6.85 (7.51)	0.33* (0.09)
Chemistry 112C	0.36 (0.48)	6.85 (7.51)	-0.13 (0.17)
Math 4	0.11 (0.32)	2.31 (2.40)	-0.10 (0.33)
Math 5	0.27 (0.44)	4.26 (5.28)	0.98* (0.24)
Math 8A	0.50 (0.50)	5.35 (3.87)	0.82* (0.34)
Math 8B	0.21 (0.41)	2.18 (2.44)	-0.13 (0.29)
Math 9A	0.18 (0.39)	1.87 (1.30)	0.31 (0.23)
Math 9B	0.46 (0.50)	5.09 (4.72)	0.20* (0.11)
Math 9C	0.24 (0.43)	3.12 (3.62)	0.35 (0.20)
Math 22	0.13 (0.34)	3.06 (3.22)	0.09 (0.25)
Physics 2A	0.47 (0.50)	3.26 (2.92)	0.19 (0.10)
Physics 2C	0.41 (0.49)	3.75 (2.70)	-0.07 (0.10)
Entire Sample (N=4,362)	0.41 (0.49)	6.94 (7.04)	

Note: SIP=Supplemental Instruction Participation, HRS= Supplemental Instruction Contact Hours conditional on SIP=1.

* Indicates statistically significant at the 0.05 level (two-tailed).