

# Achieving the Dream Report Series



March 15, 2011

## *Comparing Outcomes for Students who received Supplemental Instruction to those who did not – Fall 2010*

During the Fall 2010 semester, NECC ran sections of supplemental instruction (SI) in several course subjects. The college has been implementing SI course sections over the past 2 years and tracking

the outcomes. The outcomes of the SI sections are compared to the same course offerings that do not use SI. As you will see from the data, the outcomes vary according to discipline.

### Results of Fall 2010 Supplemental Instruction Sections

Course #	Course Title	Enrollees	Type of Section	A – C Completers	Completion Rate	Avg Earned Credits – 2009-10	Avg Cum GPA – 2009-10
MAT 022	Basic Algebra II	22	SI	13	59%	21	2.50
		692	Non-SI	427	62%	20	2.49
MAT 120	College Algebra	24	SI	19	79%	28	2.86
		240	Non-SI	144	60%	31	2.78
MAT 130	College Alg & Trig	28	SI	18	64%	27	2.65
		112	Non-SI	48	43%	25	2.64
CHM 111	Intro / Chemistry	40	SI	26	65%	28	2.82
		110	Non-SI	76	69%	35	2.94
BIO 121	Anatomy & Physiology	25	SI	9	36%	19	2.64
		257	Non-SI	140	54%	32	2.91
WRT 001	Intro / Basic Writing	19	SI	11	58%	6	1.89
		18	Non-SI	12	67%	16	1.87

For the 4th straight semester, the Math course sections with SI had predominantly better outcomes than those sections without SI. The College Algebra SI section had a Course Completion Rate (CCR) of 79% versus 60% for non-SI sections. The College Algebra & Trigonometry SI section had a CCR of 64% versus 43% for the non-SI sections. The Basic Algebra II SI section had a slightly lower CCR of

59% versus 62% for the non-SI sections. Due to a change in grading policy/financial aid regulation there was one withdrawal in the SI section that was included this semester that in previous semesters would have been excluded. If that student grade was not in the denominator, the CCR of the SI section would have been 65%, again besting the non-SI section CCR.

The Chemistry, Biology and Writing SI sections did not show the same results. The Introduction to Chemistry SI section had a Course Completion Rate (CCR) of 65% versus 69% for non-SI sections. The Anatomy & Physiology SI section had a CCR of 36% versus 54% for the non-SI sections. The Introduction to Basic Writing SI section had a CCR of 58% versus 67% for the non-SI sections. All sections with the exception of Anatomy & Physiology were populated with students of like GPA's and average earned credits at the beginning of the Fall semester. The Biology SI section had

students who had less college experience and a lower average GPA.

Why do the Math sections tend to benefit from the intervention of SI and the other disciplines, not? We need further study, but we have a couple of ideas. First of all, student participation in the SI component is not "mandatory". They may choose not to attend any of the meetings. The following chart displays the average attendance for each section.

**Fall 2010 SI Session Attendance and Course Completion Rates**

<b>SI Study session attendance average for the semester</b>	<b>Completion Rates (with Grades A-C)</b>
MAT022 9.8 students/session or 58%	59%
MAT120 Unreported	79%
MAT130 15 students/session or 54%	64%
CHM111 6.3 students/session or 14%	65%
BIO121 4.5 students/session or 21%	36%
WRT001 6.4 students/session or 38%	58%

As you can see, attendance for the Math sections was higher than biology, chemistry and writing. The large time commitment involved in a science class: generally students already spend two hours more than in other classes because of the labs. With SI, we are asking them to spend two additional hours, for a total of 7.

- Other possible factors that may influence outcomes include:
- SI leader training
- Level of teamwork between instructors and SI leaders
- Instructor training in the use of SI leaders
- Instructor grading patterns

So what do we plan to do to try to improve the SI course completion rates? First, we want to have more data to draw on. We will track attendance in the SI sessions much more carefully in Spring 2011

and we are also asking SI leaders to rate each student's engagement in each session (on a scale from 1 to 3).

We will ask students to rate the effectiveness of each SI session. This should give us a lot more insight into what is actually going on in the sessions themselves.

We will add new teachers to the mix to attempt to eliminate teacher-focused reasons for completion rate differences. Training for the SI leaders will become more formal each semester.

Staff who have responsibility for SI, will go to the University of Missouri in Kansas City for training this summer and will bring back an even more formal approach to training for both SI leaders and instructors starting this summer/fall.

Finally, instructors will strongly urge students to attend the SI sessions. They will also explain the benefits of attendance.

*Interpretations of these findings as well as suggestions for further analysis are always welcome. Please direct questions and comments to Thomas Fallon, Dean of Institutional Research and Planning, via phone at 978-556-3866 or email at [tfallon@necc.mass.edu](mailto:tfallon@necc.mass.edu).*