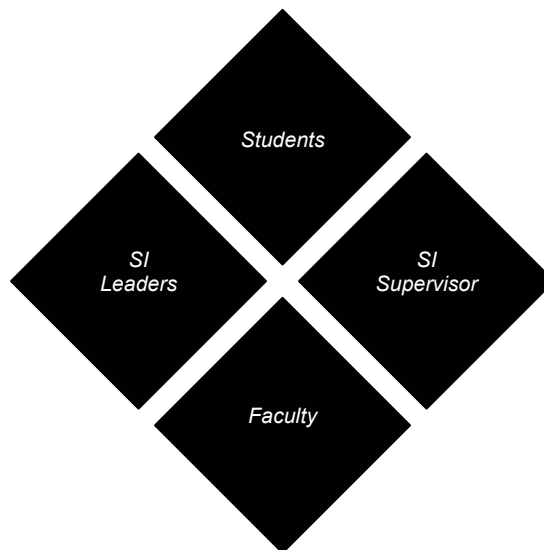


# **Supplemental Instruction**

***National Data Summary, 1998 - 2003***



**Presented by:**

**The International Center for Supplemental Instruction  
Center for Academic Development  
University of Missouri - Kansas City**

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## **Introduction**

Each semester the International Center for Supplemental Instruction at the University of Missouri-Kansas City (UMKC) collects data on a voluntary basis from institutions currently operating Supplemental Instruction (SI) programs. The information received from the participating institutions allows us to compare and analyze data on national SI programs.

At least one representative from each school that operates or has operated an SI program is required to complete a SI supervisor training program facilitated by a certified trainer of UMKC. During this training, the participants are encouraged to send summary reports containing information about their SI program to UMKC in order to compile the data presented in this report. A summary report is the document that summarizes grade and enrollment information for any class that offered SI during a semester. The summary report also includes total class enrollment, SI participants mean course grade, non-SI participants mean course grade, rates of D's, F's and withdrawals, as well as other important information.

## **Data Analysis**

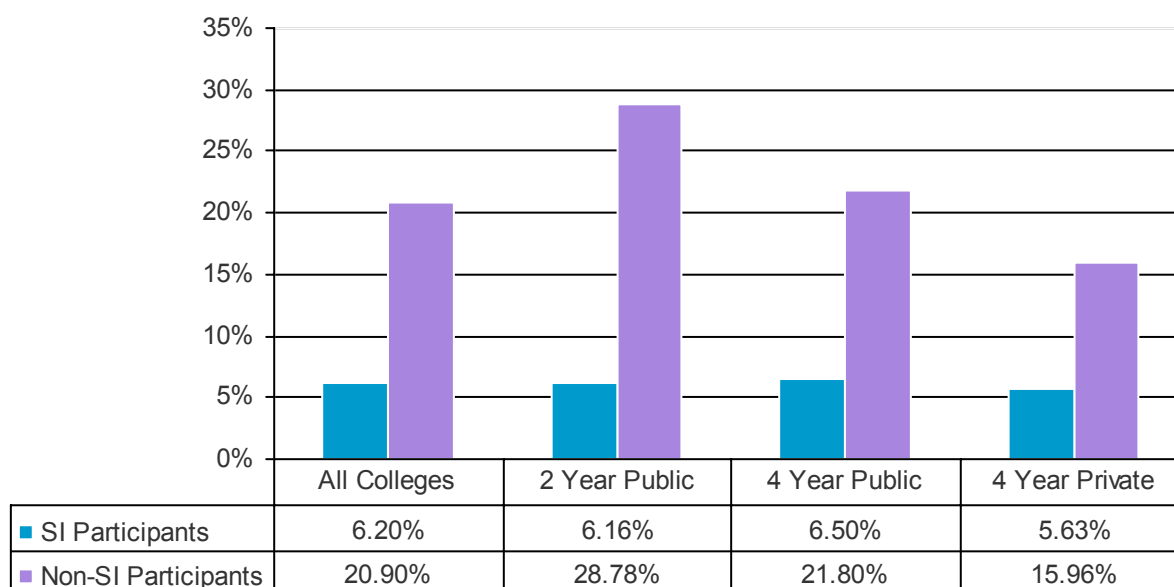
Below are five charts constructed from the collected data. These data summarize the SI program results of 53 institutions from winter 1998 – summer 2003 semesters. The data represent 745 courses with a total enrollment of 61,868 students.

When examining the mean grades of SI and non-SI participants, an independent sample t-test was performed. The results of these tests appear in the commentary above charts 3 and 4.

**Chart 1: Percentage of Total Course Enrollment Receiving a D, F or W (withdrawal)**

The data presented in the chart below show the percentage of total course enrollment that received a D, F or W (withdrawal) as a final course grade. As shown, the D, F or W rate for the SI participants is on average 15% less than the D, F or W rate for Non-SI participants possibly indicating that SI participation helps contribute to a lower D, F or W rate. The highest D, F or W rate was in 2-year public institutions of higher education at 28.78% while the lowest D, F or W rate was in 4-year private institutions at 5.63%.

**Percentage of Total Course Enrollment Receiving a D, F or W**  
**National SI Data: Winter 1998 – Summer 2003**

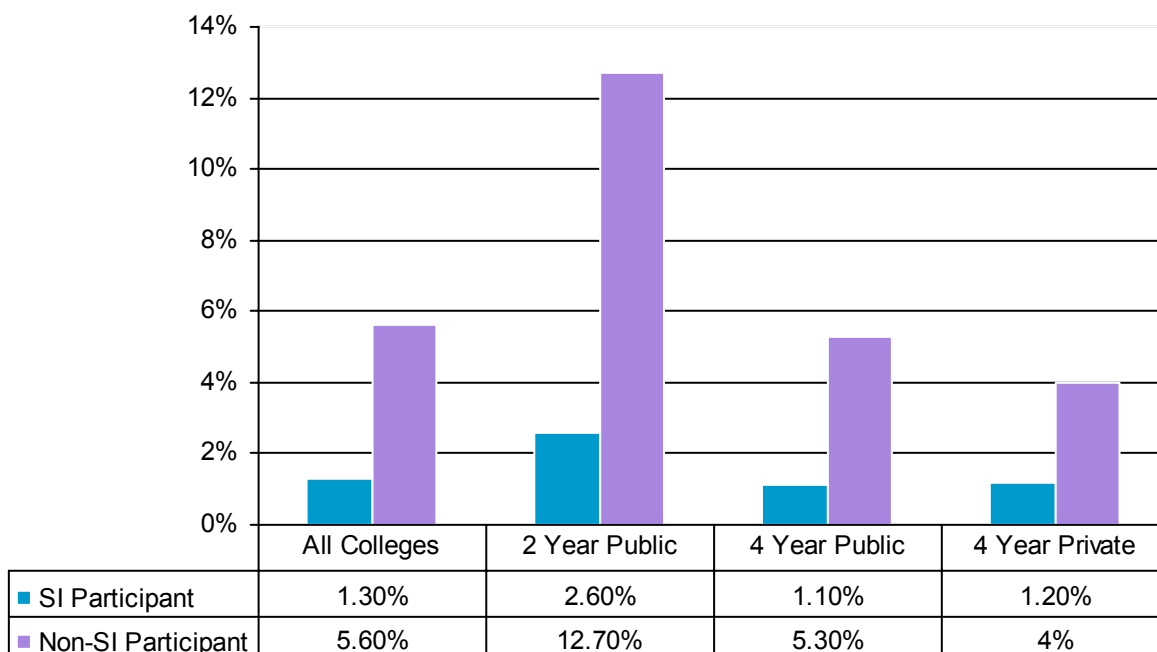


*N=61,868 Students, 53 Institutions, 745 Classes. Of the total enrollment, 3,866 SI participants received a (DFW) while 12,910 Non-SI participants received a (DFW).*

**Chart 2: Percentage of Total Course Enrollment Receiving a W (withdrawal)**

The data presented in chart below show the percentage of total course enrollment that received a W (withdrawal) as a final course grade. As shown, the withdrawal rate for the SI participants is on average 5.1% less than the withdrawal rate for Non-SI participants possibly indicating that SI participation helps contribute to a lower withdrawal rate. The highest W rate was in 2-year public institutions of higher education at 12.7% while the lowest W rate was in 4-year public institutions at 1.1%. Examining the withdrawal rate also has financial implications for institutions that grant full or partial tuition refunds to students receiving a withdrawal.

**Percentage of Total Course Enrollment Receiving a W**  
***National SI Data: Winter 1998 – Summer 2003***

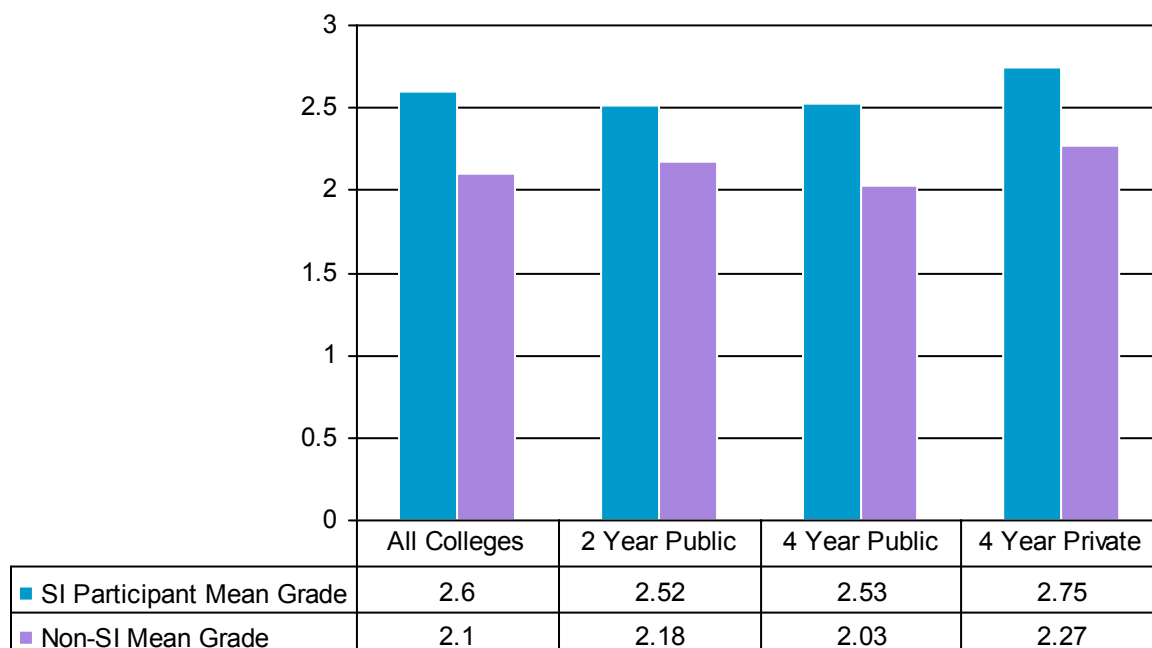


*N=61,868 Students, 53 Institutions, 745 Classes. Of the total enrollment, 782 SI participants received a (W) while 3,471 Non-SI participants received a (W).*

**Chart 3: Mean Final Course Grades of SI and non-SI Participants by Institution Type**

The data presented in the chart below show the mean grades of total course enrollment separated by institution type. As shown, the grades on average 0.46 grade points higher for SI participants than for Non-SI participants possibly indicating that SI helps contribute to higher grades for those that participate in it. An independent samples *t*-test was conducted for the grade in the “all” category to determine the effect that SI had on SI and non-SI participants mean final course grades. The results yielded a statistically significant finding at,  $p < .0001$ . Students participating in SI ( $M = 2.60$ ,  $SD = .54897$ ) demonstrated better mean final course grades than was demonstrated by non-SI students ( $M = 2.10$ ,  $SD = .64780$ ). This finding was reflective of a large effect size, .83.

**Mean Final Course Grades of SI and non-SI Participants by Institution Type**  
*National SI Data: Winter 1998 – Summer 2003*

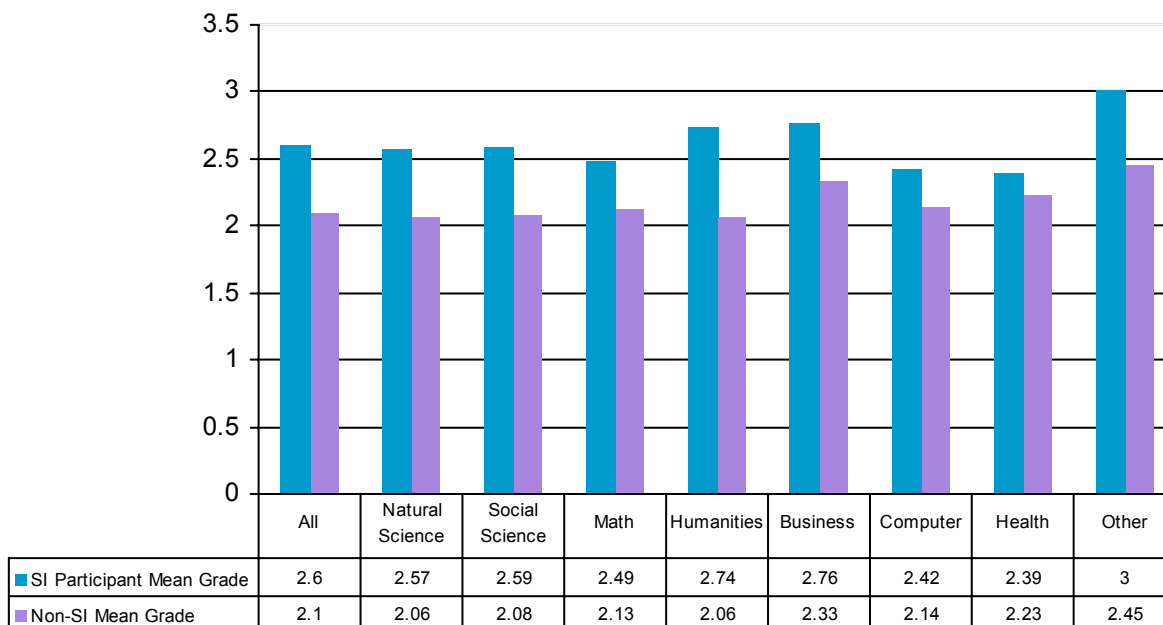


*N=61,868 Students, 53 Institutions, 745 Classes*

**Chart 4: Mean Final Course Grades of SI and non-SI Participants by Academic Discipline**

The data presented in chart below shows the mean grades of total course enrollment separated by academic discipline. As shown, the grades on average are 0.44 grade points higher for SI participants than for Non-SI participants possibly indicating that SI helps contribute to higher grades for those that participate in it. An independent samples *t*-test was conducted for the grade in the “all” category to determine the effect that SI had on SI and non-SI participants’ mean final course grades. Students participating in SI ( $M = 2.60$ ,  $SD = .54897$ ) demonstrated better mean final course grades than was demonstrated by non-SI students ( $M = 2.10$ ,  $SD = .64780$ ). This finding was reflective of a large effect size, .83.

**Mean Final Course Grades of SI and non-SI Participants by Academic Discipline**  
*National SI Data: Winter 1998 – Summer 2003*



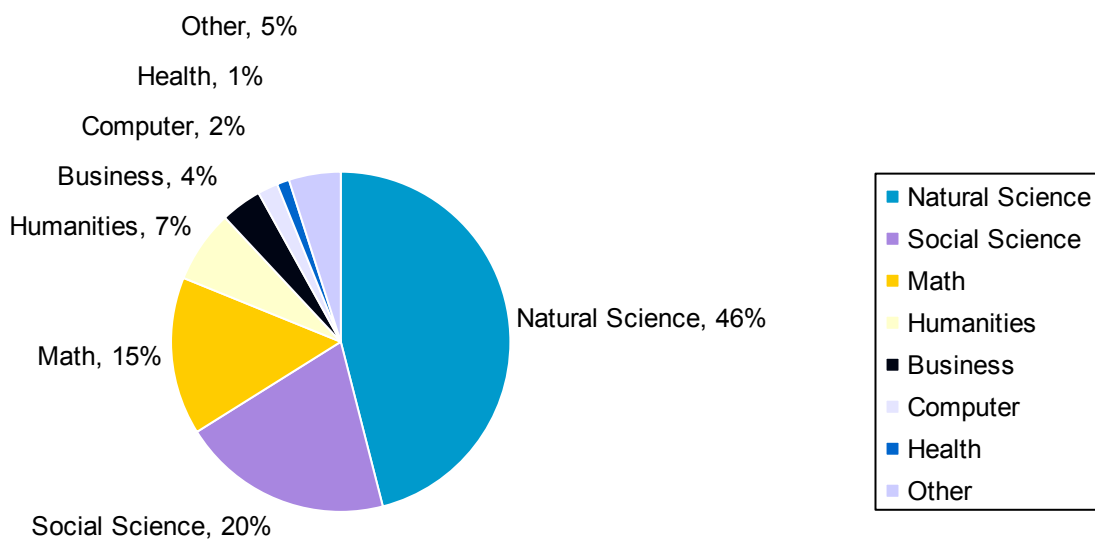
*N=61,868 Students, 53 Institutions, 745 Classes*

### **Chart 5: Academic Disciplines Using Supplemental Instruction**

The data presented in the chart below show that SI is prevalent in numerous academic disciplines. While natural and social sciences are most commonly targeted for use of SI, math and humanities also utilize SI. Included in Natural Sciences are chemistry, physics and biology. Social Science refers to courses such as political science and sociology. Math refers to courses such as calculus, statistics and all levels of algebra and remedial math. Humanities courses refer to disciplines such as English, history and philosophy. Business refers to courses such as accounting and finance. Computer refers to courses such as computer science and computer programming. Health refers to courses such as all levels of nursing courses and on occasion medical school. Other refers to topics such as religion, leadership and personal development courses. Graduate schools and professional schools, where SI began, continue to implement SI on a regular basis as well.

#### **Academic Disciplines Using Supplemental Instruction**

***National SI Data: Winter 1998 – Summer 2003***



*N=745 Courses*

## **Conclusion**

The data in the above charts help to demonstrate the value and success of Supplemental Instruction. As the data indicate, the D, F and W rates of those that attend SI are significantly lower than those that do not attend SI. We also find that SI participants can experience improved grades on average of .45 grade points higher than non-SI participants. These data are supported by the statistical significance as shown in the independent t-tests on charts 3 and 4. Also demonstrated is the compatibility of SI in differing academic disciplines.

While data reports such as this are important when examining the impact of SI on a large scale, a common position regarding SI research is that individual institutional data analysis is vital to the continued success of a program. When evaluating an individual campus program however, this report could be used as a comparison tool of an individual program to that of a national report. Data from internationally operated SI programs are not included in this report because of the differing grade point structures at institutions in other countries.

***Please direct any inquires, concerns or questions about this report, SI program information or SI implementation to:***

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