

UCSC Student Utilization of Learning Support Services for Economics Classes

Learning Support Services provides assistance to students in Economics classes through Modified Supplemental Instruction (MSI) and Tutoring. Supplemental Instruction is attached to the core Economics courses: Econ 1, 2, 100A, 100B, and 113, as well as to Economics, AMS, and Math 11A and 11B. Students are most likely to find tutoring available for other Economics courses, though we are sometimes unable to find competent student tutors for upper division classes. Economics students also receive help from general programs such as drop-in Math and Writing tutoring. This report begins with an overview of student utilization of LSS assistance for all Economics classes during the 2007-08, 2008-09, and 2009-10 academic years. We then focus on the use of LSS during this time period by students who were declared Economics majors in fall 2010. We continue the data analysis with a description of the 2009-2010 academic year utilization for classes required for the major and end with an examination of the influence of MSI utilization on students' academic performance in selected Economics classes.

Overview of Student Utilization of LSS Assistance for Economics Courses for the 2007-08, 2008-09, and 2009-10 Academic Years

A total of 2,457 students utilized LSS support for Economics classes during this period. This is an unduplicated number, such that students are counted only once, even if they used multiple services in multiple years. Table 1 shows the unduplicated number of students who used LSS by academic year and the number of courses supported. Over the three academic years, LSS supported 32 courses. Note that any tutoring that occurred during summer is excluded from this report. Any cross-registered classes are included.

Table 1 Unduplicated Count of Students who Utilized LSS Assistance for Economics Classes by Academic Year and the Number of Courses Supported

	Academic Year		
	2007-08	2008-09	2009-10
Student Count	1,116	1,144	939
Course Number	19	24	24

Students in Economics classes utilized LSS services for 32,255 contact hours over the three years. Figure 1 shows the number of contact hours by academic year.

Figure 1 Total LSS-Student Contact Hours for all Economics Classes for 2007-08, 2008-09 & 2009-2010 Academic Years

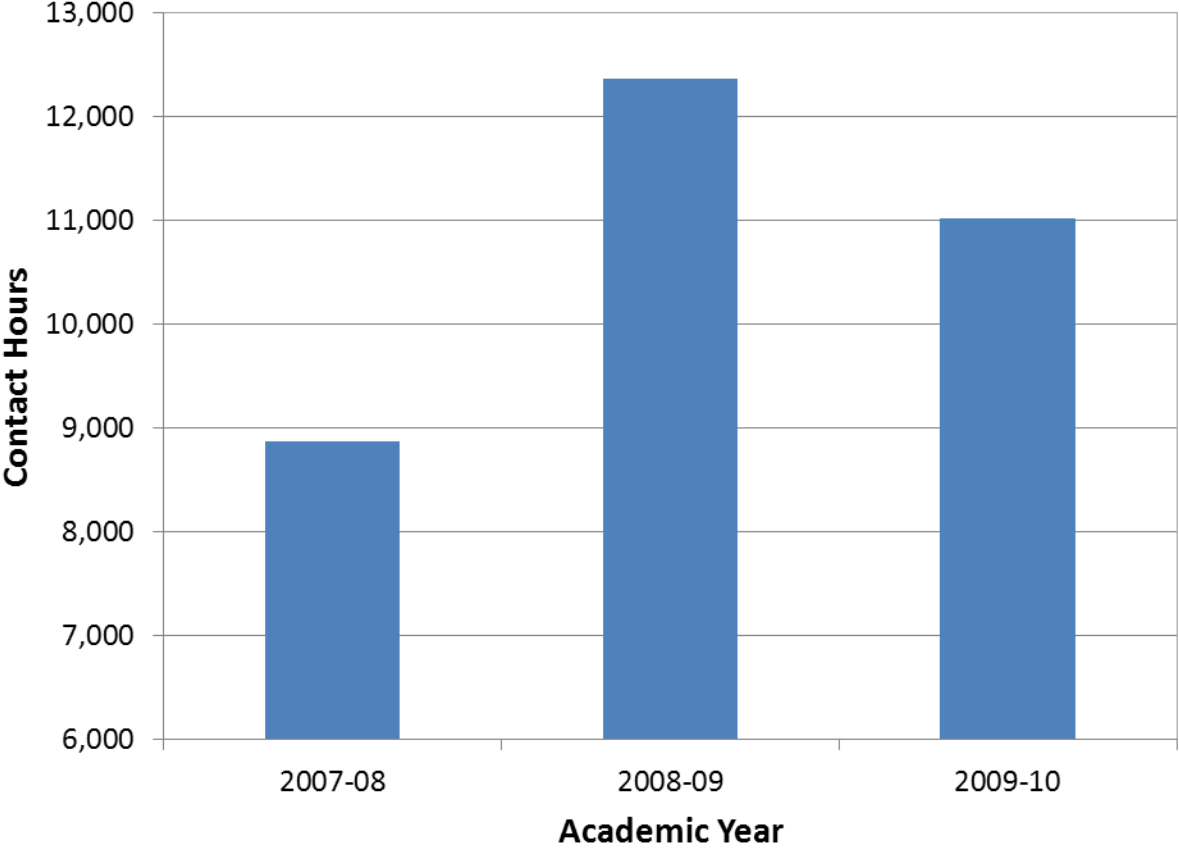
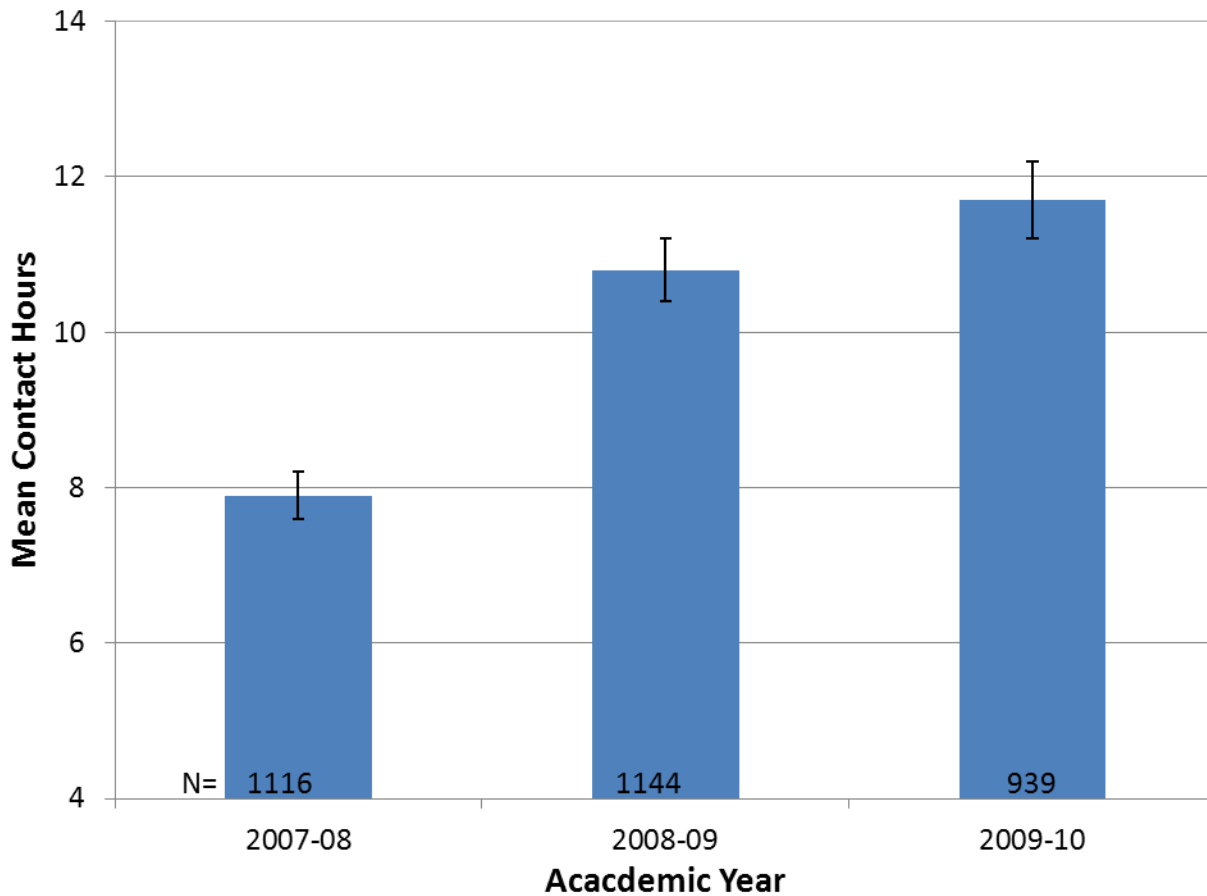


Figure 2 illustrates the mean number of contact hours per student by academic year. The error bars represent the standard error of the mean. The N is the unduplicated number of students who used LSS support for Economics classes for each academic year.

Figure 2 Mean Student Contact Hours for all Economics Classes by Academic Year

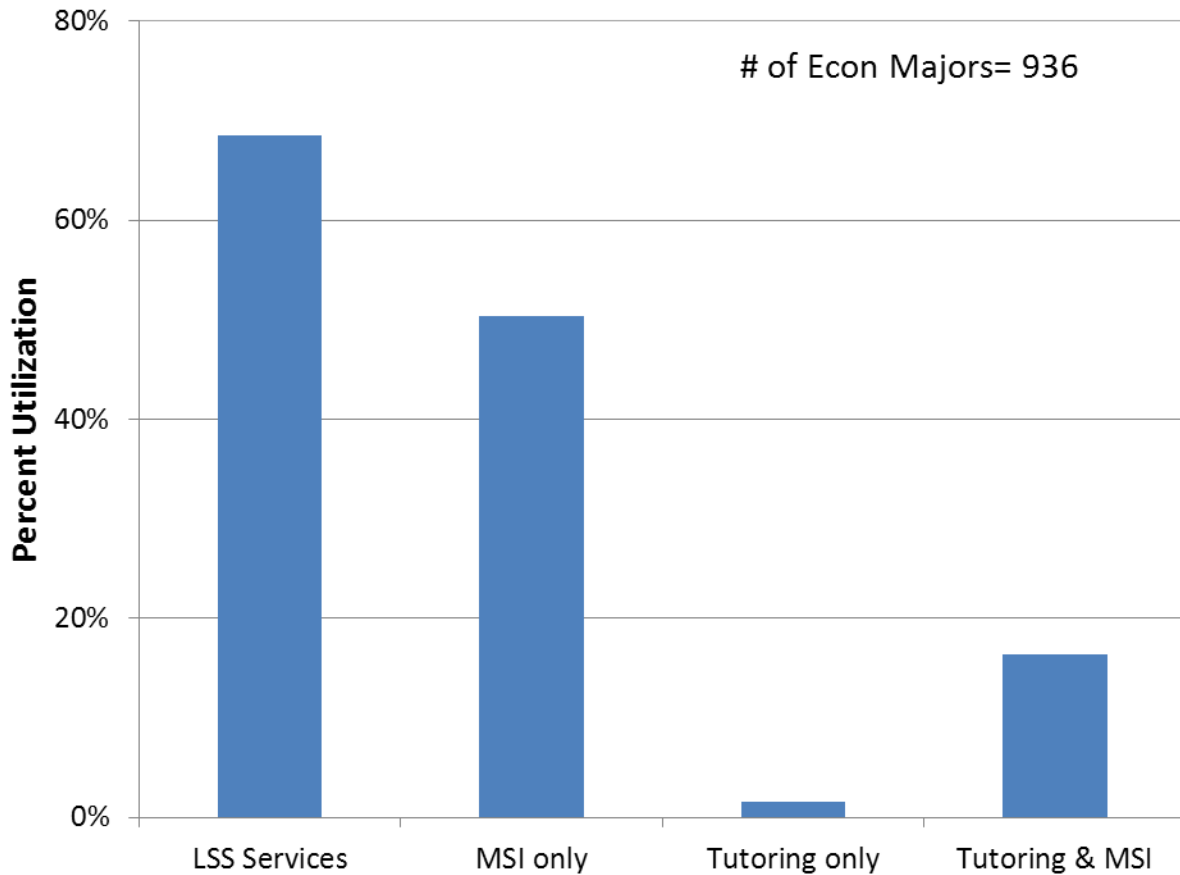


Utilization of LSS Assistance for Economics Classes During the 2007-08, 2008-09, and 2009-10 Academic Years by Fall 2010 Economics Majors

In the fall of 2010, 936 students were declared Economics majors (Economics, Business Management Economics, Global Economics, Environmental Studies/Economics, Latin American and Latino Studies/Global Economics, and Economics/Mathematics). The number of majors came from a Cognos report downloaded September 13, 2010. Pre-majors were not included in this analysis. 641 (68.5%) of these declared Economics majors used academic support services at least one time during fall 2007-spring 2010.

Figure 3 shows the utilization by major LSS programs, MSI and tutoring.

Figure 3 Fall 2010 Economics Majors Percent Utilization of LSS Services During the 2007-08, 2008-09 & 2009-10 Academic Years



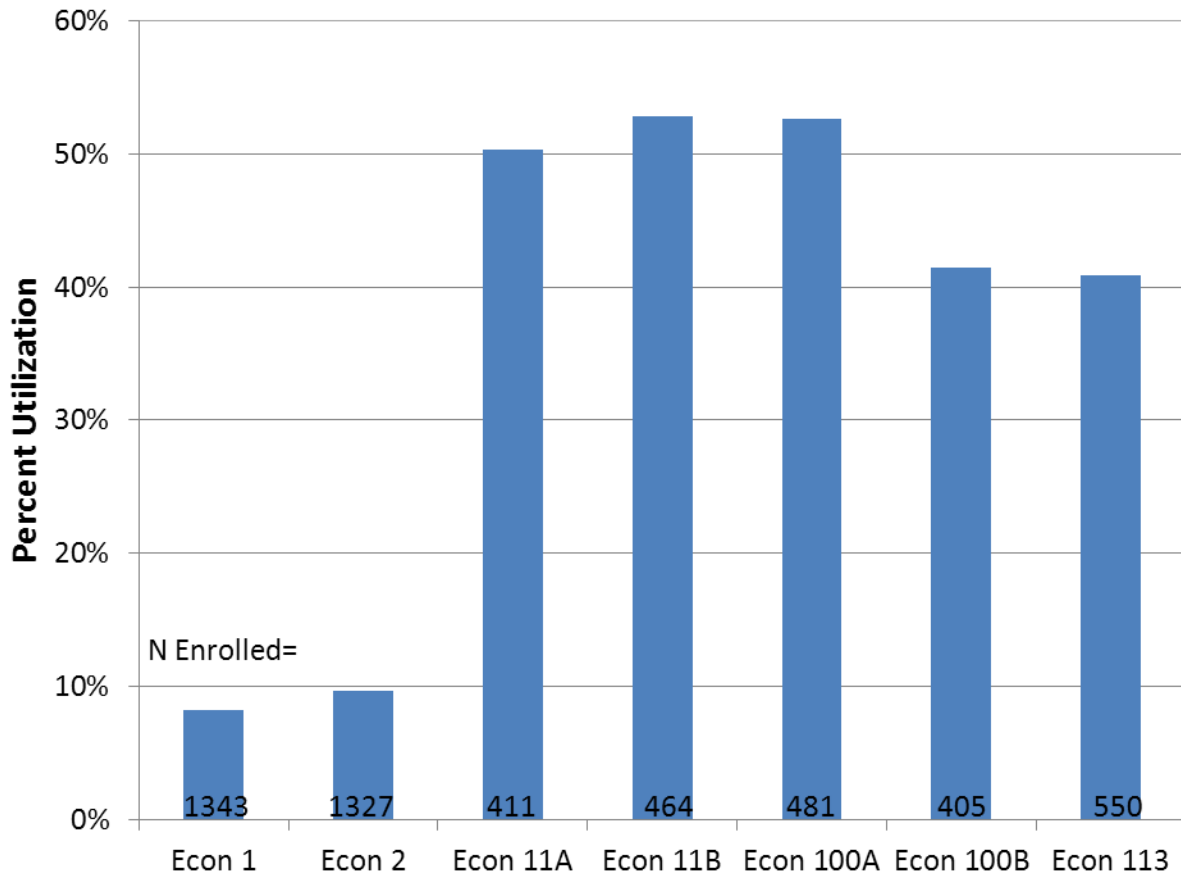
The Economics majors as of fall 2010 used 13,184 contact hours during the three academic years. As noted earlier, UCSC students in Economics courses utilized LSS support for a total of 32,256 contact hours, so Economics majors accounted for 40.9% of the total contact hours. Most of the hours were used by the Economics majors who attended MSI (12,073 hours, 92%).

Utilization of LSS Assistance for Required Economics Classes During the 2009-2010 Academic Year

Figure 4 shows the percent of students enrolled in required classes for the Economics major that used LSS during the 2009-2010 academic year. The overall student utilization data for the year are compiled using student participation quarter by quarter. Therefore, if a student retook a course and used LSS during the 2009-2010 academic year, his or her participation is counted twice. Otherwise, the student count is unduplicated. The number of students enrolled in each

class came from Cognos on April 22, 2011. If the class was offered multiple times in the year, the number of students is a combined total.

Figure 4 Percent of Students in Required Economics Classes that Used LSS Services for the Class in the 2009-2010 Academic Year



MSI Utilization and Class Achievement

Since MSI provides the majority of the academic support that LSS offers for Economics classes, the following figures focus on several of the Economics classes supported by MSI. In Figures 5 and 6 we compare student achievement, grades of B- or better (Economics 1 and 2) or pass rates (Economics 11A, 11B, 100A, and 100B), of students who took the class and attended none, 4 or fewer, and greater than 4 MSI sessions. The grade and MSI utilization data reflect the first time a student took the class. In each class, students who attended more than 4 MSI sessions demonstrated higher achievement than the other groups.

Figure 5 Students with Grades of B- or Better in Economics 1 & 2 Their MSI Utilization for Academic Years 2007-2008, 2008-2009 & 2009-2010

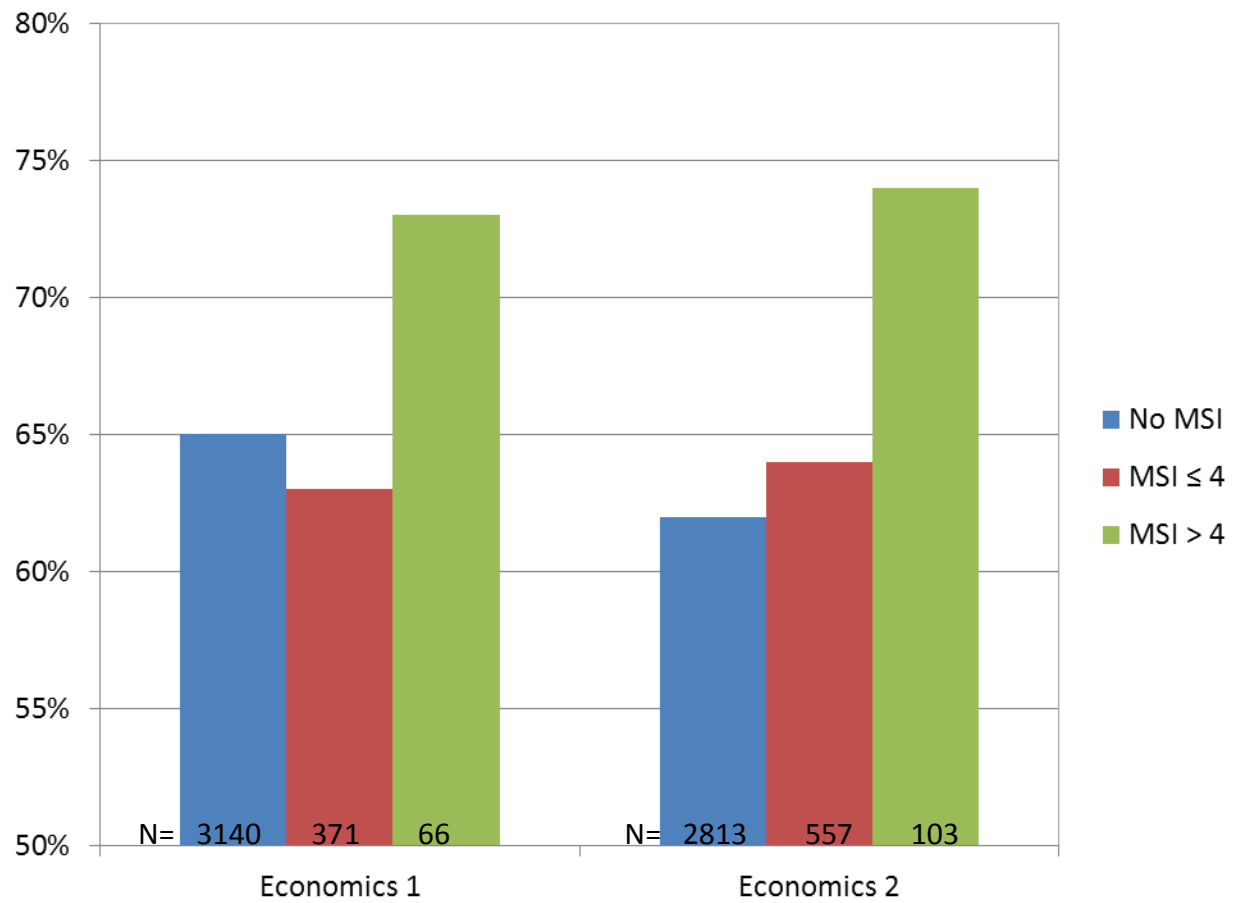
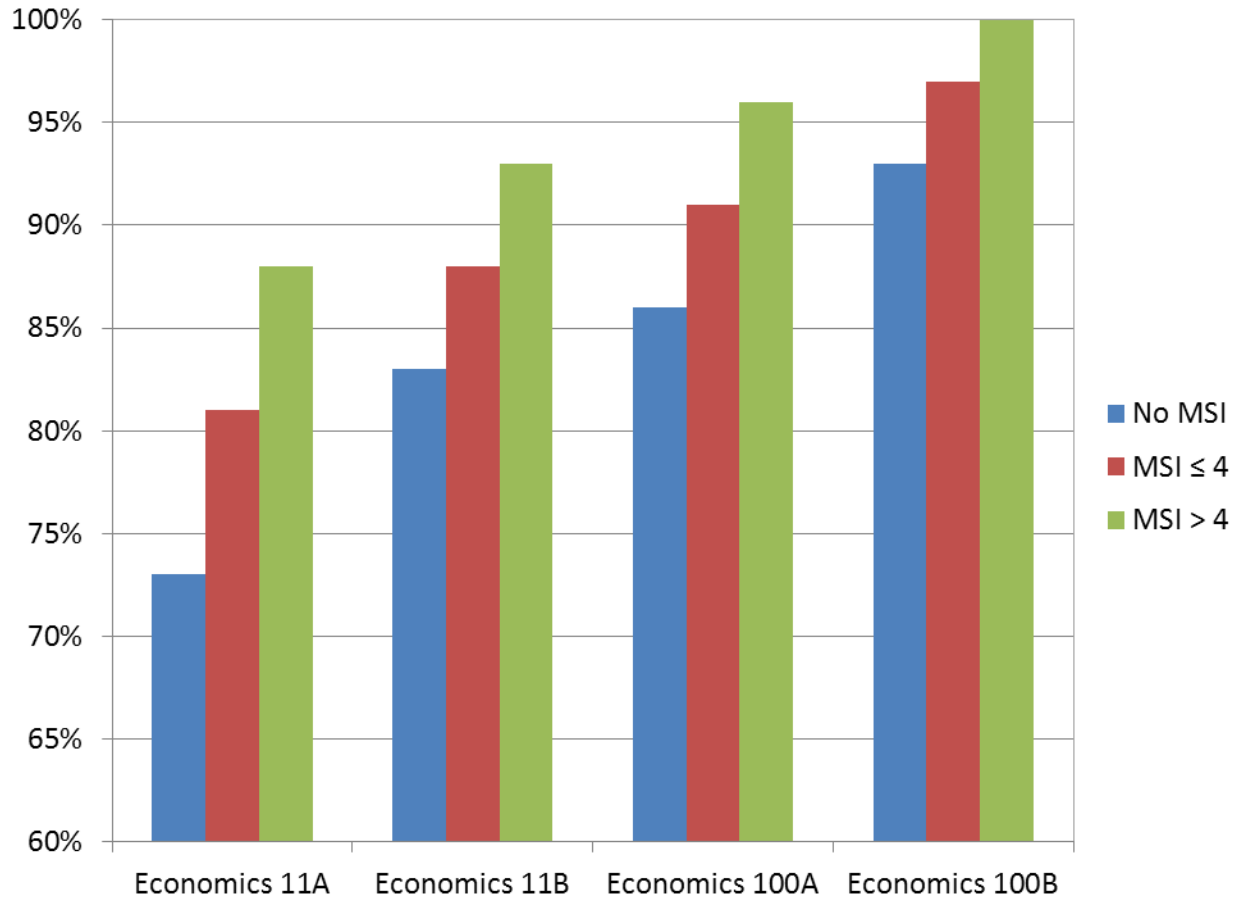


Figure 6 Student Pass Rates in Economics 11A, 11B, 100A & 100B and Their MSI Utilization for Academic Years 2007-2008, 2008-2009 & 2009-2010



Economics 1, Introductory Microeconomics, is a prerequisite and introduction to the material covered in Economics 100A. 666 students took Economics 1 and then took Econ 100A during the 2007-2008, 2008-2009, and 2009-2010 academic years. Table 2 shows the median grades for Economics 1 and Economics 100A based on the students' utilization of MSI sessions in Economics 100A. The Economics 1 grade used for this analysis was the highest grade that the student got for the class if the class was repeated. Only students who took the classes for a letter grade were included in the analysis. Overall, if they did not attend MSI, students' median grades decreased from a B+ in Economics 1 to a B in Economics 100A, while students who attended any MSI sessions did not have a decrease in median grade.

Table 2 Median Grades for Students Taking Economics 1 and Economics 100A for Letter Grades Based on MSI Utilization in Economics 100A

Econ 100A MSI	N	Median Econ 1 Grade	Median Econ 100A Grade
No MSI	327	B+	B
MSI 4 or fewer sessions	251	B	B
MSI > 4 sessions	88	B+	B+
TOTAL	666	B+	B

Observations and Recommendations

It appears that students who make a commitment to using Learning Support Services, particularly Modified Supplemental Instruction, can benefit from this peer-led, interactive instructional experience and, through consistent attendance have an opportunity to increase their course grade. As entrance to the Economics major depends on a students' earning a B- or above in lower-division, gateway courses, this potential relationship between LSS utilization and course grades should be important to students. Additionally, consistent MSI attendance (more than 4 sessions) also increases a student's likelihood of passing upper division Economics classes required for completion of the major.

It is probable that if the Economics department and Learning Support Services were to develop a more effective partnership, we could refine this relationship between classroom instruction and academic support services so as to further increase students' learning. In these times of budget deficiencies and increasing student interest in the Economics major, it seems educationally important for LSS and the Economics Department to explore ways to expand and improve our cooperative educational efforts. LSS looks forward to in-depth discussions with course instructors so as to improve our instructional support for Economics courses.