# SI Plus: A Program Description and an Analysis of Student Feedback

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## Abstract

*To enhance the establishment of study behaviors, the traditional model of Supplemental Instruction was complemented with study strategies presented within a World Civilizations classroom to all the enrolled students. Organization of the program, delivery of the study strategies, and student reactions are discussed. During the six semester study from Fall 2004 to Spring 2007, results of student satisfaction surveys conducted at the completion of the semester indicated high satisfaction ratings regarding the enhanced SI model, not only for the course itself but also for the students' ability to apply their newly learned study stills in other classes.*

In the past 30 years, there has been a shift in emphasis from teaching to student learning. Incorporating student learning outcomes into higher education necessitates that specific learning strategies be taught so that students can be successful in the new environment (McGuire, 2006). This is in conjunction with student surveys that report a desire to learn more about improving their study skills. In surveying 98-120 first-year college students, Noel-Levitz (2009) reported that 74.8% of the students "would like to receive some instruction in the most effective ways to take college exams," and 57.3% reported that they "would like to receive some help in improving study habits" (p. 12). More specifically, 41.4% indicated they "would like to receive tutoring in one or more courses" (p. 12).

Colleges and universities responded by establishing academic support systems with student involvement as a key component. Opportunities abound for student involvement, including but not limited to peer tutoring, study groups, study tables, workshops, and Supplemental Instruction (SI). This study examines the effectiveness of merging two well-established systems— SI and course attached tutors— into one "value added" service. During a period of several semesters, this project focused on incorporating academic support into a history class by presenting tips for college study skills to students along with Supplemental Instruction.

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## Background

Although a quick workshop or in-class presentation may be viable for exposure to study tips, a real change in study attitudes, behaviors, and habits will only occur over an extended period of time (Leamnson, 1999). Complicating matters further, students may not be motivated to learn independently and thus need experiences that increase strategic learning (McGuire, 2006). Tutoring and Supplemental Instruction offer opportunities for change; additionally, there is an understanding that study habits are simply routines, which can develop and change over time (Boylan, Bonham, Claxton, & Bliss, 1995; Congos & Schoeps, 1993; McCarthy & Smuts, 1997; Hodges, 2001; Ogden, Thompson, Russell, & Simmons, 2003). Consequently, the development of academic assistance programs, implemented over a period of time, is very important. Besides the individual student variables, there are also positive aspects of both tutoring and Supplemental Instruction. In both settings, students have a model student available to them to answer individual questions. They also have extended one-on-one contact with a consistent assistant.

There are some negative aspects involved with these delivery systems. Tutors do not have many opportunities for contacts with great numbers of students. They lose students throughout the semester, and frequently, tutors do not know if the students have reached their academic goals or if the students left for other reasons beyond dissatisfaction with the tutoring process. Additionally, tutors are knowledgeable about the course, but they do not know exactly what was presented in class or how the teacher presented or stressed the content. SI leaders have difficulty addressing individual needs because of the group setting. Generally, SI leaders apply study strategies to class content, but time constraints or student demands frequently do not permit this to happen.

Student expectations can add to the challenges SI leaders or tutors face because students may have unrealistic expectations of what tutors or SI leaders can do in the sessions. If the supplemental material is not directly related to course content, students may become impatient or disillusioned. Additionally, tutoring and SI only work if sessions are scheduled at times when students can attend and are not restricted by other responsibilities. This specific program was created to balance individual learning styles and course content with the best of both tutoring and SI worlds.

In this research, the traits of tutoring and Supplemental Instruction are combined, the SI leader role is expanded into the classroom, and the model is labeled "SI Plus," thus providing study skills as part of the well established SI model. The SI leader attended each class and held out-of-class review sessions twice a week. The difference with this approach and traditional Supplemental Instruction is that the SI leader was able to take a much more active role within the classroom. During each class period, the SI leader had approximately five minutes to present a relevant study skills tip that applied to the material at hand. Through this approach, the SI leader had access to everyone in the class as well as additional contacts through the smaller SI sessions.

SI leaders were trained to reinforce the educational instructional model

of "teach, practice, and apply" (Reinhartz & Van Cleaf, 1986). Too frequently, students receive and even practice study strategies during content-oriented tutoring, but they resist taking the next step: applying the strategies to the courses they are studying. The benefit of the SI Plus program is that the SI leader was able to teach a strategy to the whole class, demonstrate guided practice, and then follow up with independent practice and applications in the SI sessions and through individual office hours. SI Plus offered the application of study strategies to specific course content.

## Method

### Participants

Most of the students were freshmen, but sophomores, juniors, and seniors were also enrolled in the history classes.  No one in the classes was excluded from treatment.  The only way students were excluded from the survey was if they were absent from class on the day it was administered. Students were not recruited for this study; instead, they were enrolled in a class as usual; the study was part of the class content. This program would work in a large or small class, but in this case, the semester started with an enrollment of approximately 200 students.

### Procedure

This research was conducted at a four-year, public, Midwestern university. Within the University College Learning Center's academic support program, both tutoring and Supplemental Instruction were— and are— offered to students as separate services. To staff the SI Plus program, a student who had taken a class and completed it with a letter grade of A or B was hired by the Learning Center and asked to attend the class. The Supplemental Instructor for this study started during her senior year in an undergraduate program and continued through her doctoral work. Because she was a history major and had previously worked closely with the professor who taught this history class, the candidate was familiar with the both the course and the instructor. The job of the SI leader was to meet with the professor, take notes, act like a model student and hold at least two out-of-class review sessions each week. There was usually an additional office hour offered for student assistance each week.  SI hiring preference was given to a student who had experience in tutoring in the Learning Center. Once hired, the prospective SI leader received training in Supplemental Instruction.

This "SI Plus" model was implemented in a World Civilizations class. This was traditionally a high-risk class with a high percentage of grades being D, F, and W (for withdrawal). The 15-week class met Tuesdays and Thursdays from 9:30 – 10:45 a.m. The SI leader attended every class and was allotted five minutes of class time to relate some study skills information to students. Based on the syllabus, she provided short but consistent lessons targeting material covered during the class period. The lessons were presented at various times throughout the individual class periods, so the students saw them as incorporated within the class, not just as an auxiliary component. The SI leader also conducted out-of-class SI sessions twice weekly and held one additional office hour weekly in the Learning Center. The Supplemental Instruction sessions outside of the classroom also covered both content and study strategies.

In arranging this program, there were several important considerations. The most important consideration was to have a good SI leader in place. The SI leader needed to have a solid knowledge base of study skills and course content. Another important quality was creativity; the SI leader needed to demonstrate an ability to quickly generate ideas to adapt the study skills to the class material. The SI leader needed to be organized and present relevant content information in an interesting manner. A crucial factor was to have a flexible professor who would see the value in giving five minutes each class period to this venture. These components were necessary to support a good working relationship between the SI leader and the professor, a key to the success of this model.

The SI leader presented a variety of topics to the class, and the presentation of these lessons is considered to be the "treatment" in this study. This treatment was done for six semesters from Fall 2004 to Spring 2007. During each semester, the SI leader presented approximately 25 topical lessons.  In the daily lessons, she frequently discussed making study schedules, keeping track of study hours, and making "to do" lists as organizational techniques and ways to manage time wisely.  She discussed taking notes, mapping techniques, and effective textbook strategies as methods of capturing concepts that needed to be learned. She used various strategies for assisting students in differentiating between the main ideas and details of what they were hearing and reading.

The SI leader was able to review the students' notes and comment upon them in the SI sessions.  During this time, she helped the students make associations between the new information and what they already knew. She taught them active listening techniques and to self-monitor their understanding.  Frequent tests and quizzes during the semester led to increased nervousness and anxiety. She addressed these concerns in numerous sessions with a two-pronged approach of instruction on relaxation exercises and test preparation strategies. The class included testing through essay exams, so preparing with outlines was one of the major strategies the SI leader discussed.  Self-testing was also addressed over the course of the semester.

*Evaluation Instrument*

Each semester, an in-class survey was conducted separately from the traditional course evaluation.  The purpose of this was to gather feedback, specifically on the SI leader's performance within the class as a type of quality control measure. The specific survey responses follow in the next section.

## Results

The following information is a summary of the surveys that were collected at the end of each semester, starting from Fall 2004 and ending at Spring 2007. The first five questions are totals from all the surveys. The total number of students who completed the surveys for these six semesters was 564.

Students who used the SI-Plus program consistently received better grades than those who did not use the program. Comparing the mean grades

for the six semester span of the program, students who used the SI-Plus program on average had 34% higher grades than those who did not use the program (SI-Plus participants mean grade was 2.766 compared with 2.059 mean grade for Non-SI-Plus participants). Specifically, the mean grades for each semester were as follows:

Table 1

*Mean grades earned by students using the SI-Plus program compared to those who were not; N=564.*

| Semester | SI | Non-SI |
|----------|------|--------|
| Fall 2004 | 2.735 | 2.101 |
| Spring 2005 | 2.841 | 2.316 |
| Fall 2005 | 2.644 | 2.153 |
| Spring 2006 | 2.680 | 2.189 |
| Fall 2006 | 2.825 | 1.196 |
| Spring 2007 | 2.869 | 2.398 |

The student satisfaction survey results were overwhelmingly positive with more than 90% of the responses in the most favorable ranking.

For Questions #1 and #2, 100% of the respondents reported "Somewhat" or "Very Evident." On Question #3, 89% of the respondents reported "Yes," the SI leader had used a variety of methods in the study skills lessons. For Question #4, 91% of the respondents reported that they occasionally or frequently tried the study strategies that were presented in class. If they answered occasionally or frequently, they were asked how many of the skills they tried; 419 of the respondents tried two or more of the study skills.

The responses to questions 6-14 were compiled as follows:

*Question 6: Which ones did you try?*

Almost half of those surveyed tried note-taking, with 26 percent (100) of the responses and time management strategies, with 23 percent (90) responses. Although not as popular, respondents tried strategies for reading textbooks, with 18 percent (70) of the responses, reviewing, with 11 percent (44) of the responses, and test preparation, with 9 percent (37) of the responses. The least attempted strategies included making outlines, with 8 percent (32) and using flashcards, with 5 percent (21) of the responses.

*Question 7: In what ways were they useful?*

Almost half of those surveyed said they gained the most by improving their test preparation, with 23 percent (83) of the responses, and remembering, with 21 percent (73) of the responses. The following three categories were a close cluster with improved organization, with 18 percent (64) of the responses, saving time, with 15 percent (54) of the responses, and saving

time, with 14 percent (54) of the responses. The category with the least improvement was in notetaking, with 9 percent (32) of the responses.

*Question #8, "Have you tried the strategies in other classes?"*

The majority of the respondents reported they had used these strategies beyond the SI Plus course, with 62 percent of the students (358 students) reported "Yes;" conversely, 37 percent of the students (213 students) said "No" they had not tried extending their skills to other courses.

*Question #9 "If yes [to question #8], which strategies did you try and in what classes?"*

While a variety of classes and strategies were mentioned, the most frequent answer was students used highlighting and note taking strategies.

*Question #10: What are the results?*

A substantial majority of responses, with 77 percent (233 students) was "good," 18 percent (56 students) of the responses indicated the results were "ok," while just five percent (or 15 students) indicated none, or N/A.

*Question #11: "If you have not applied the strategies, why not?"*

While a majority of the responses (74 students) indicated students thought they already had good study skills, the next most popular response (with 31 responses) was the strategies, "won't help me," or the strategies were "meaningless." The penultimate response was the students were "lazy" or "too tired," with 23 responses. Finally, 18 responses indicated students either "didn't know" why they did not apply the strategies or they did not think the strategies were applicable.

*Question #12: "Have you attended any Supplemental Instruction sessions with the specific SI leader used for this study?*

An overwhelming majority of students (36) reported they attended additional Supplemental Instruction sessions with the SI leader; on the other hand, slightly more than 10 percent (156) students had not participated in additional sessions.

*Question #13: If "Yes" to question # 12, then how many sessions?*

A majority of the students attended all or almost all of the additional sessions, with 58 percent (or 223 students); another strong response was those students who attended at least four sessions, with 25 percent (or 95 students). The attendance rate drops dramatically, with just 9 percent (or 34 students) to attended 3 additional sessions and 8 percent (or 30 students) who attended just one additional session.

*Question # 14 Comments/suggestions if we incorporate a study skills tutor in a future class?*

Thirty-two comments praised SI leader directly; 13 comments were positive about the program and its helpfulness; five people suggested having the sessions at various times throughout the semester; four comments were

made directly about the SI sessions. Highlights of the statements include: "Make the students go [to the SI sessions]," "Make students obligated to study more."

*Question # 15: Would you recommend this program in the future? Why? Why not?*

One hundred and eleven students answered this question, and all but four people answered "Yes," plus a positive comment. The positive comments referred to everything from the helpfulness of the tutor, "[SI leader]'s the bomb and if she's getting paid you should give her a raise," to comments about the support it gives the professor, "It reinforces what Dr. [Instructor] teaches," to making the transition to college: "It helped me out a lot in my classes, especially since I was an incoming Freshman." Comments also highlighted the appreciation of general academic support: "It would help anyone since it taught new skills and reinforced old ones." A common report was that "It was definitely worth the class time." The comments not in support of the program were, "Went to study sessions and didn't cover the right material," "I just think it needs to relate more to getting students to study more, rather than techniques on how to study," "Most students, by this time, already know what study habits work best for them," "No, it doesn't help," and finally, "Some people never go to class and just attend the study sessions. I don't know how to fix this, but it is a problem."

In the section for "recalling and tallying these responses," the following categories were made: "All" or "Almost all" was reported by 223 people; "Four or more" was reported 95 times; "Three times" was reported by 34 students; and "Once" was reported by 30 students. The last two questions asked for comments, suggestions, and recommendations for the future and are included in the Appendix.

For the six semesters, the total number of enrolled students was 1,042. The total number of SI participants was 817 students. The total number of contact hours, from both SI sessions and office hours, was 7,073. Individual data for SI sessions compared to office hours is not available; those are totaled together every semester.

## Discussion

Based on the survey results, the SI Plus program provided benefits to the students. The students had close contact with a model student. This contact was recognized by the students in their last two survey responses as being helpful. The SI leader was also a bridge to the professor for the students and could discuss areas of concern with the professor that arose during the contacts with the students. She was able to provide feedback on student performance. The SI leader also provided a strong connection to the Learning Center and resources for additional academic support. Frequently, in the traditional SI model, students are reluctant to attend the SI sessions until it is time for a test. With the SI leader being so active within the classroom and teaching them to use more study strategies, SI attendance ranged from five students to 100. The average attendance for each session

was about 50 students. The survey collected extremely high satisfaction ratings on the SI leader and the program. The research found that many students applied the study skills in other classes during the same semester as the World Civilizations class; information on whether students continued to use those skills in subsequent semesters was not gathered.

The students benefited from using the skills throughout the semester. For example, the class had an essay portion on its midterm test. The SI Leader provided in-class examples of outlines in her presentation and discussed how to prepare these with specific topics related to the class material. She then asked the students to prepare practice outlines. In the next SI session, the SI leader reviewed the students' outlines and together they brainstormed topics they thought might be included on the midterm exam. As noted in the summary results, 91% of the students "applied the strategies when studying History 150." Preparing outlines is one of the skills presented that can be relevant for many classes. 78% of the students confirmed that they "tried the strategies in another class." Conversely, the SI leader self disclosed that she also reaped many benefits. She was able to expand her leadership and presentation skills to large groups and to feel comfortable in such a setting. She also felt more ease and comfort when communicating with the faculty member (Hurley, et. al, 2006; Stout & McDaniel, 2006). SI leaders traditionally learn the material of their own discipline more thoroughly and become more efficient students (Stout & McDaniel, 2006).

The positive correlation between SI Plus and student grades had an additional impact on the faculty. As a result, the faculty member reported that he passed the same tips in his other non-SI Plus classes and that he incorporated it in his syllabus in subsequent semesters. This phenomenon echoes the research of Zerger, et. al (2006) that indicates faculty members convey content mastery as well as a strengthened knowledge of study skills. Faculty members saw additional benefits in incorporating SI Plus into their courses because of the positive results.

The economic benefits of SI Plus are obvious. Since an SI leader already in class, having him or her address the entire class with a study skill does not add anything to the expense of the program. Because the SI leader should be knowledgeable and trained in study skills, this training could be obtained from tutoring. All tutors and SI leaders completed CRLA-certified training, so they should have felt comfortable addressing study skills, regardless of the course content. Information about addressing study skills is also included in the official UMKC training for SI leaders.

Addressing the entire class with a study tip is the most cost efficient delivery system that also promotes the academic service component of the university (Zerger, et. al, 2006). A majority of the responses from the students indicated that these tips were useful. The SI leader was seen as a helpful resource both for the class and for services that the Learning Center provided.

## Implications

The impact on the students in the History 150 class was instantly visible. Students who incorporated the study skills and regularly attended SI sessions did better on the assignments, quizzes, and tests in the class.

They received better final grades for the class than the students who did not attend SI sessions or class regularly. The overall impact on the students is unknown. This study only examined the students in that individual semester that they were enrolled in History 150. There was no follow up study to see whether these skills were maintained into other courses after the student completed this course with the SI Plus component.

In regard to the impact of Supplemental Instruction, it was beneficial for the SI leader to build rapport with all the students by presenting the skills in class and answering questions. This led to a good working relationship between the SI leader and the students during the SI sessions. Introducing the skills in class made it easier to work on them in the sessions because the students were familiar with the information.

SI Plus can impact learning assistance programs in general. It can be an important tool within the array of services offered. The students who use Supplemental Instruction with a focus on study skills enhancement learn how accessible and valuable the campus learning assistance programs are just by being in the classroom.

## Further Study

There are still several areas to investigate. It would be interesting to know to what degree the students have applied the study skills to the history class and in their other classes. A longitudinal study surveying the students could assess if students continued to apply the study skills to classes in the future.

This project worked well because the particular SI leader and professor had a good working relationship. A study determining whether the SI Plus program works with other SI leaders and in other courses would add strength to these results.

Finally, another study could assess whether SI Plus produces similar results in classes from other disciplines. More research and effort should be given to the study skills aspects of Supplemental Instruction. Concentrating on using study skills in Supplemental Instruction in other disciplines is the logical next step.

## Conclusion

To improve the formation of study behaviors, the usual model of Supplemental Instruction was enhanced with study strategies presentations within a World Civilizations classroom to all the enrolled students. This study supports the research showing that many college students want more information on how to study effectively (Noel-Levitz, 2009). It also addresses McGuire's (2006) findings that students need experiences to increase strategic learning. The students in this study gained learning experience both in the classroom and in Supplemental Instruction. Combining the best traits of SI and study skills tutoring was well-received by the students, as indicated in their survey responses. At a time of economic concern, SI Plus would be easy to replicate and implement in other classes. Learning assistance programs on any campus should consider this as another important tool for students in their array of services.

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