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IPAS RESEARCH BRIEF

SI LEADERS TAKE ON COOPERATIVE LEARNING AND SUPPLEMENTAL INSTRUCTION AT IU NORTHWEST

OVERVIEW

This report presents the findings from two focus groups of supplemental instruction (SI) leaders conducted in May 2006. Four major areas of interest brought forth are discussed: the campus community's knowledge about SI, the impact of cooperative learning on the SI program, the SI training program, and the SI program staff. Also included are the students' challenges and rewards as SI leaders and recommendations for the program.

PROCEDURES

A total of ten SI leaders, approximately half the total number of SI leaders at this campus, were recruited by SI program directors at Indiana University Northwest (IUN) to join the focus groups for this assessment. The participants represented a range of SI courses (e.g., math, sociology, accounting, and geography) and also varying numbers of terms' experience as SI leaders. The assessment team then discussed emerging themes taken from reviewing the focus groups' transcripts, keeping in mind as well the informational needs voiced by the SI program staff.

FINDINGS

Relevance to the SI program guided us in organizing and presenting the findings of this report. This section examines SI leaders' perceptions of the program and the campus community through descriptions of three major areas of interest: SI leaders' experiences with campus knowledge about the SI program, their practice of cooperative learning techniques, and the training for their role in the SI program.

SI LEADERS' EXPERIENCES WITH WHAT THE CAMPUS KNOWS ABOUT SI

It appears that knowledge on campus about SI was limited to word of mouth, as SI students commented that efforts to advertise the SI program had only begun the year of this study. The SI leaders described the limited knowledge of SI among their peers and said the program was generally perceived on campus as a remedial or tutoring intervention for struggling students. This reputation was perpetuated, they believed, by well-intentioned instructors who encouraged students to participate in SI but mistakenly recommended it only for students who needed help. In the following quote, for example, an SI leader sees this as a central challenge to be addressed.

[W]e also have to talk to the professors and really get them to stop thinking of SI as a remedial program, because a lot of the professors are saying, "If you need help, if you have questions, go to the SI program," instead of saying, "If you want a better understanding of what we're learning, then you should go and sort of expand on your experience."

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SI leaders believed that students who are doing well may not consider attending SI because they believe sessions to be unnecessary and that other students avoid participating in SI because they sense it would stigmatize them as remedial students. The misperception that the SI program is a service for struggling students was also exemplified in the attendance patterns. SI leaders reported that some students stopped attending SI after doing well on their first exam and that attendance conversely increased among some students after performing poorly on an exam.

In summary, the campus community's knowledge about SI is reflected in students' and instructors' perspectives on the purpose of SI and SI leaders' role in the learning process. SI leaders encountered indications of a prominent—though not universally held—belief among faculty and students that SI is a remedial tutoring program for struggling students. These findings suggest that low attendance may be attributable in part to a lack of understanding in the campus community about the goals and practices associated with supplemental instruction.

SI LEADERS' PRACTICE OF COOPERATIVE LEARNING

In this section, cooperative learning will be discussed, with SI leaders'

recollections of training that supports this instructional strategy and of representative SI sessions that demonstrate it in action. The highlight of this section will be the description of a chief benefit to SI leaders from practicing cooperative learning pedagogies: the enhancement of their own learning through deep processing.

Training for cooperative learning. SI leaders commented that this was the first year that a formalized training program was provided. This training created the expectation that SI sessions would be based on the cooperative learning strategy, with discussion and group work for solving a problem or answering a question (Johnson, Johnson, & Smith, 1998).

The first couple of times that I was in SI, I had no training whatsoever . . . I had no idea what kind of techniques to use, I really think that probably the first semester I was more tutoring than being an SI leader. It tended to be a little more one-on-one and I wasn't certain, eliciting anything from them as much as I was re-lecturing . . . Then when we came to this training program, then I really realized that there was a method to the madness. I wasn't supposed to be a lecturer, but that we were supposed to discuss.

This SI leader's quote illustrates her belief that being an SI leader is strongly linked with the use of cooperative learning strategies. The SI leaders identified techniques they learned to redirect discussions on irrelevant topics, to make a room more conducive to student interaction, and to encourage higher achieving students to contribute their knowledge to the SI sessions.

Cooperative learning in the SI session. It is important to look as well at how the SI leaders incorporated cooperative learning into their sessions. Several SI leaders in both focus groups described taking on the role of facilitator and creator of an environment that would encourage students to ask questions and work together to seek out answers.

Some students who attended SI sessions resisted the cooperative learning strategy, however. They expected SI leaders to lecture, tutor, or just provide answers to their questions. One SI leader explained how she dealt with these expectations and successfully implemented collaborative learning.

They'd always want me to tell them the answers. You know what I'm going to do? I had them break up into groups and say, "Now, I'm not going to tell you the answer but what I want you guys to do is to work together, try to figure it out, because," I said, "I'm not going to be there when you're going to be taking the test."

One SI leader felt the cooperative strategy did not work for her course, as it was an applied subject, and thought the training did not give examples of how to use cooperative learning techniques outside of reading or writing assignments. However, she *did* use cooperative learning techniques by encouraging students to participate and share their knowledge to solve problems.

I tried to do how they [SI training] wanted us to do it in the beginning. It seemed like this isn't working. . . . If they had questions, I would do one but I was always like [speaking to the students] "What do I do next?" "What do I do here?" They wouldn't necessarily tell me what I thought I would do next, but if I knew I would get to where I needed to be, I would let them direct me. When we would do it their way, then I would say, "You know. We could have gone back here and done this differently." They are like, "Oh." Then we would get to where they would go up and actually work the problems on the board and explain it to each other.

Cooperative learning partnerships with instructors. The content of SI sessions in the cooperative learning strategy is determined by course instructors. Instructors who fully incorporated the SI program into their courses provided the SI leaders with practice questions, old tests, and quizzes. Yet SI leaders reported that other instructors did not see the applicability of cooperative learning to their courses. Some of the SI leaders assigned to science or math-based courses found difficulty in incorporating the cooperative learning strategy because it was not demonstrated in the classrooms of those courses. Moreover, the traditional cooperative learning techniques of discussion and small group activities did not seem—even to some SI leaders—to apply as readily to courses in which the main focus was application of formulas or identification.

Mine was basically numbers and concepts. . . . A reading course like I guess anthropology and sociology where you actually have to read and relate back if there's a question like "What does blah, blah, blah ___? What are the different forms of ___?" . . . But with [an applied math field], I mean, this is how it was done and this is how it was supposed to be done and you can't change the words in it or you'll be wrong.

Deep processing. Deep processing occurs when new knowledge is acquired by relating new information to prior knowledge and then

WHAT IS COOPERATIVE LEARNING?

Cooperative learning is related to collaborative learning, as both are learning strategies that encourage learning through group work and interactive discussion. However, in cooperative learning the tasks to be completed or the material to be learned are clearly specified by the instructor, whereas in collaborative learning the learning objective is co-created between instructors and students. (Johnson, Johnson, & Smith, 1998, p. 30)

WHAT IS DEEP PROCESSING?

Deep processing, also known as critical thinking, involves challenging the authenticity of information encountered and attempting to integrate new information with prior knowledge and experience. This is distinct from a learning process such as memorization, which is called surface processing. (Elliot, McGregor, & Gable, 1999, p. 549)

integrating it into one's own "knowledge bank." This type of learning process reaches a level beyond memorization and the learner gains a richer understanding and appreciation of the content learned. When asked about their SI experience, the SI leaders consistently referred to their deeper understanding of the course material as one of the greatest benefits of being an SI leader.

I think SI, it's all about helping other people but it really helps you as a student too because you had this course earlier and now you're, later on you've learned more about it. And it's stuff that I completely forgot about, and it supplements what I'm learning now, and it's all, like, it goes in the circle.

Deep processing involves individuals applying knowledge learned in one area to another area. This process then, in turn, provides a richer understanding to both content areas as one finds interconnections between them. One student described her experience of applying prior business knowledge to leading SI sessions:

I have a business background so I think of everything like a sale call. That's how it is. You go and present the information. You make your trial close to see if they're going buy it. They understand it then you're good. You made your sale. If they don't get it then you have to go back and adjust. After all that time, that's exactly how I've, that's always like a sales call to me. I'm always like, we have to go back. We didn't get that. Let me see what else I have to say to them. Maybe they can get this.

In summary, the SI leaders who participated in the focus groups defined how the cooperative learning strategy has been utilized in this program. Their descriptions of the training, how they carried out their role as an SI leader, and their expectations in the SI sessions and the classroom demonstrated this connection. Also, SI leaders' comments in this area illustrated how the SI program's advocacy for the cooperative learning strategy may discourage faculty from using SI if they believe that cooperative learning is not compatible with their pedagogy or course content. The combination of faculty's misperceptions of the purpose of SI as a tutoring program and their limited understanding of cooperative learning culminates in significant implications: SI leaders' difficulty in applying SI practices and faculty disinterest in working with the SI program because of perceived incompatibility of the cooperative learning strategy with applied coursework.

SI LEADERS' TRAINING

conducted in 2005–2006. SI leaders shared that this training had provided them with a clear sense of the purpose of SI, teaching strategies, suggestions for dealing with problem students, and ways to encourage participation. SI leaders also received a manual—a resource of teaching techniques. As mentioned earlier, the cooperative learning strategy that the SI program builds on influenced the training and information that the SI leaders received.

A formalized training program for SI leaders at IUN was first

CHALLENGES

IDENTIFIED BY SI LEADERS REGARDING THE SI SESSIONS

- Low attendance
- Difficulty scheduling SI session times suitable for both SI leaders and students
- Handling misperceptions of the purpose of SI
- Dealing with failure of students who have attended SI sessions
- Handling latecomers, crammers, and unprepared students

BENEFITS

OF BEING AN SI LEADER IDENTIFIED BY SI LEADERS

- Being part of the SI community: friendship, support, a sense of belonging
- Deep processing
- Gaining teaching experience and learning instructional strategies
- Learning interpersonal skills: public speaking, discussion facilitation, communication skills
- Prestige among peers for being recognized as an SI leader
- Being part of other students' academic success

Training sessions. For the most part, the SI leaders provided positive feedback about the training sessions, saying they appreciated the information they received and the support offered to them by the SI staff and fellow SI leaders. They cited the techniques they had learned for role playing, redirecting discussion, and encouraging discussion as major benefits of the training sessions. Several SI leaders commented that the training had covered many issues they encountered in their SI sessions. The only criticism was the large amount of content covered in one day of training. A few students wished that the training could have lasted longer to permit a slower pace and to cover more information.

The training sessions provided a context where the leaders built relationships with each other and thus developed a network of people available to help them with issues they faced in this work.

I think first and foremost one of the great byproducts of the training sessions are that we all get to know each other and so now we can run into each other around campus and you know this is what's happening to me. I don't know, there's like an SI community I'm thinking now as a result of that.

Manual. Some SI leaders found the manual to be extremely helpful as it provided techniques for implementing cooperative learning.

Oh, the manual. I carried it with me. There was a lot of information in there that was, I knew it was too much for me to digest in one sitting. But if ever I had a question and occasionally I would just pick it up to go through it to see what else I could add.

Other students did not use the manual, as they preferred to ask other SI leaders and SI staff when they had questions, or they referred to teaching techniques that they learned during the training.

Yes, I'd just admit . . . I didn't touch the manual but the concepts that we addressed in training I definitely used. And I had like . . . other SIs for the walking manuals.

Staff support, office environment, and SI community. Overall, the SI leaders expressed that the SI coordinator, Cathy Hall, had been a source of support and a valued resource of information. SI leaders shared that they had gone to Hall for clarification of how to implement teaching techniques and had found her very approachable and consistently available to them. SI leaders who were hired before Hall joined the staff described how her work and enthusiasm had changed the SI program.

When I first hired into the SI thing, it was before Cathy was here, and she has really organized it. She's really excited about it and she's made it a lot better.

The office environment was also a source of support for the SI leaders, as it provided them with a place on campus to socialize, study, and interact with the SI staff and other SI leaders. A sense of community was created in the office.

WHY DO STUDENTS DECIDE TO BECOME SI LEADERS?

- To gain a deeper understanding of their major
- Past positive experiences from being an SI student participant
- Class schedule allowing the time to take advantage of this opportunity
- A resume-builder for future career and/or graduate school application
- Student stipend

SI LEADERS' SUGGESTIONS FOR IMPROVING THE SI PROGRAM

- Increase publicity of the program to encourage attendance and to inform students of the purpose of SI
- Extend the one-day training session to relax the pace of instruction and to provide more information
- Incorporate more SI leader interaction with students during regular class sessions
- Offer extra credit to students who attend SI sessions
- Add SI sessions to courses similar to discussion sections or lab sessions found in courses

NEXT STEPS

Emerging from this study of SI leaders' perceptions and experiences are a number of suggestions that may be considered by the SI program staff:

- Introduce additional activities to improve knowledge on campus about SI, especially for participating faculty and students (e.g., handouts, information sessions, Web page resources).
- Clarify to all participants the purpose and strategy of the program's cooperative learning framework.
- Continue the currently successful efforts at training and community building.
- Increase practical support in (1) boosting attendance and (2) scheduling.
- Add further support for SI leaders who may have difficulty applying cooperative learning to certain material or fields of study.
- Investigate further high-risk courses (those with high DFW rates, for example) not currently participating in the SI program. Focus groups with faculty of these courses might be held to determine these teachers' (1) awareness and perceptions of the SI program; (2) attitudes and beliefs surrounding pedagogy in their fields, academic support, and students who earn low grades in these courses; and (3) perceptions about what kind of academic support is currently available to students in their courses.

A previous evaluation of supplemental instruction at IUN conducted by IPAS in 2005 focused on effects of the program on student persistence for students (n=416) who attended at least one SI session during the 2002–2003 academic year. When controlling for a variety of factors, such as race, ethnicity, income, and high school preparation, SI was found to have had a significant and positive effect on the likelihood of a student persisting from semester-to-semester, year-to-year, and across three consecutive semesters.

It should be noted, however, that because students elect to participate in SI, these results may have been attributable in part to self-selection. Students who share distinct and relevant characteristics—particularly motivated students, for example—may participate in SI sessions in disproportionate numbers. Similarly, faculty members who share distinct and relevant characteristics—teachers in a particular department, for example, or those who adopt a learner-centered approach—may elect to incorporate SI into their courses in greater numbers than faculty members who differ on these points. In either case, then, it is possible that evaluation results reflect these patterns of self-selection.

The findings reported here illuminate in part how this self-selection plays out. Faculty and student decisions to participate in the program are influenced in some part by perceptions of what SI is and for whom it is intended. This report may also point to ways to alleviate the extent to which self-selection confounds our understanding of the program's effects. Growth in these areas will increase understanding of the practices and effects of the SI program and will enable the program and the university to devote efforts efficiently in the program's future development and improvement.

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