

Iowa State University
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Supplemental Instruction-Academic Success Center

**Supplemental Instruction & the Seven Principles for Good Practice in Undergraduate
Education**

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Abstract

Chickering and Gamson (1987) presented seven principles for higher education to enhance student learning in academic settings. These principles have numerous academic applications beyond typical classroom settings. For example, Congos (2002) introduces how Supplemental Instruction (SI) contributes to the improvement of student learning.

This document presents Chickering and Gamson's seven principles. Each principle is followed by specific methods the SI program contributes to student learning at Iowa State University, as encouraged by the principle. These methods are based on Congos (2002) and the input of Iowa State University SI Leaders during the spring 2008 semester.

Purpose

To qualitatively describe how Supplemental Instruction contributes to student learning within the framework of the *Seven Principles*.

Methodology

Following a literature review, the SI Coordinator presented the *Seven Principles* to the SI student staff. Using small group discussions, observations from SI sessions, and assessment data, the SI student staff described how SI contributes to student learning.

Principle I: Good Practices Encourage Contact Between Students and Faculty

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ Leaders attend the same class as students with faculty.
- ◆ SI sessions increase opportunities for contact with academic material outside of class.
- ◆ Helping students through difficult content in one course, to ease learning of content in subsequent courses.
- ◆ Leaders who role model study good student behaviors, study habits, and college level learning in and out of class.
- ◆ Meetings between Leaders and faculty develop reciprocity in facilitating learning.
- ◆ Leaders reference instructors' lectures, notes, and other resources provided to students.
- ◆ Leaders can provide faculty with feedback about course progress based on the session content.
- ◆ SI Leaders can quell students' concerns about approaching faculty, and encourage direct communication with instructors.
- ◆ SI Leaders advocate for instructors.

Principle II: Develop Reciprocity and Cooperation Among Students

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions sharpens thinking and deepens understanding.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ SI sessions are typically facilitated based on collaborative learning methods.
- ◆ Students are encouraged to provide each other with learning tips and problem solving suggestions.
- ◆ SI is a non-competitive environment—students help each other learn.
- ◆ Students are not evaluated on their knowledge by an "authority" during the sessions, promoting

- ◆ Students prepare for testing with each other by creating sample exam questions and developing solutions.
- ◆ SI Leaders are trained to create safe learning environments.
- ◆ SI sessions typically smaller than course lectures encourage peer students to reach higher order thinking based on application and synthesis of material.
- ◆ SI provides an environment for students to feel safe about their level of understanding.
- ◆ Students meet study partners at SI sessions.

Principle III: Encourage Active Learning

Learning is not a spectator sport. Students do not learn much just by sitting in classes listening to teachers, memorizing pre-packaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences and apply it to their daily lives. They must make what they learn part of themselves.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ SI sessions enhance class attendance, but does not replace attending class.
- ◆ Leaders avoid relecturing course content.
- ◆ SI Leaders' use of collaborative learning methods encourages student participation and discussion.
- ◆ SI Leaders encourage active learning through simultaneous visual and auditory stimulus.
- ◆ SI Leaders use lecture and textbook content as a baseline for learning.
- ◆ Students are encouraged to share information and discuss.
- ◆ SI Leaders encourage student to apply knowledge to real-life situations.
- ◆ SI Leaders encourage students to answer questions for each other.

Principle IV: Give Prompt Feedback

Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. When getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ Students' sharing of information at SI sessions allows for immediate, frequent self-testing.
- ◆ SI Leaders' emphasize the process of solving problems is equally or more important than the final answer.
- ◆ Use of practice exams helps students identify content areas for further growth prior to exams.
- ◆ SI Leaders often use examples in problem solving courses to help student assess application of their knowledge.
- ◆ SI Leaders' use of study skill handouts encourages students improve study skills.
- ◆ Students at SI sessions frequently share successful study methods.
- ◆ SI Leaders offer information that is more than confirmation of a "right" or "wrong" answer.
- ◆ The SI session atmosphere encourages students to ask questions for feedback.
- ◆ The prior success of SI Leaders with content knowledge allows Leaders to guide students towards useful information and correct steps/answers in problem solving scenarios.
- ◆ Leaders may use the "post-test survey" to help students evaluate the test performance.
- ◆ SI Leaders help students understand the transfer of current content knowledge into future courses they will take in their major.

Principle V: Emphasize Time on Task

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty, administrators, and other professional staff can establish the basis of high performance for all.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ SI contributes to the overall time commitment necessary to be successful in college, which is also modeled by SI Leaders.
- ◆ SI Leaders are students who have proven success in the content area, and overall success as a student.
- ◆ SI Leaders have access to time management resources and are encouraged to share these resources during SI sessions.
- ◆ SI Leaders are knowledgeable of additional resources on campus and frequently make student referrals to appropriate resources.
- ◆ SI session time is devoted entirely to learning.
- ◆ SI Leaders help students focus on the tasks.
- ◆ SI Leaders make resources used in SI sessions available to students who are unable to attend SI.

Principle VI: Communicate High Expectations

Expect more and you will get more. High expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations for themselves and make extra efforts.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ SI Leaders “expect students to refine their abilities to understand, learn, remember, and apply knowledge from courses.”
- ◆ SI Leaders encourage students to perform their best in class and for assignments and exams.
- ◆ Much like expectations to prepare for class, students are expected to prepare for SI sessions.
- ◆ Appropriate student behavior is clearly emphasized during SI sessions.
- ◆ SI Leaders push students to meet or exceed personal expectations.
- ◆ Students see SI Leaders having achieved high expectations.
- ◆ SI participation is voluntary, and the active learning environment increases students’ efforts.
- ◆ SI sessions challenge students to think critically about the subject matter.
- ◆ SI sessions encourage peer motivation.

Principle VII: Respect Diverse Talents and Ways of Learning

There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learn in new ways that do not come so easily.

Contributions to student learning through Supplemental Instruction at Iowa State University:

- ◆ SI Leaders use a variety of learning methods to engage students during SI sessions.
- ◆ Students are encouraged during SI session to share their content knowledge, study skills, and applications of material.
- ◆ SI Leaders encourage equal student participation, and avoid making students feel uncomfortable.
- ◆ Students “willing to demonstrate talents such as converting information from theory to practice or from practice to theory are encouraged to demonstrate these talents.”
- ◆ SI Leaders minimally use their authority to create safe spaces for sharing of diverse perspectives.
- ◆ SI sessions provide students with opportunities for multiple forms of learning repetition.
- ◆ Review if difficult content is approached from multiple perspectives at SI sessions.
- ◆ Visual, auditory, and tactile learning preferences are equally accommodated.

References

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, p. 3-7.

Congos, D. H. (2002). How Supplemental Instruction stacks up against Arthur Chickering's 7 principles for good practice in undergraduate education. *Research and Teaching in Developmental Education*, 19(1), p. 75-83.