Supplemental Instruction
SI Leader Manual

School of Instructional Support

Laura Hope, Dean
Robin Witt, SI Director

*This manual was developed based upon the training material from the University of Missouri-Kansas City and has been modified to accommodate Chaffey College and our diverse population.
SI Motto

Tell me, and I forget,
Show me, and I remember,
Involve me, and I understand.
- Chinese Proverb

Mission Statement

Students working together to achieve academic success.
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Introduction

Welcome and congratulations! You have been chosen to become a Supplemental Instruction Leader because you are a model student. This training manual and the training sessions you will be attending this semester are meant to introduce you to the Supplemental Instruction Program, as well as help you develop into a stronger student leader.

The Supplemental Instruction staff is always willing to assist you with procedures, planning, documenting your work hours, and conducting your SI sessions. Your fellow SI leaders are a great source for sharing information on conducting sessions, promoting attendance, and organizing your time. Communication with your course instructor is an essential aspect to the program because they will assist you with making your Supplemental Instruction sessions correlate to the class lecture.

Good luck to everyone! We hope that being a Supplemental Instruction Leader will enrich your academic experience and contribute to your professional development.
Supplemental Instruction (SI)

- Developed by Dr. Deana Martin in 1973 at the University of Kansas City at Missouri.

- Supplemental Instruction is an academic assistant program that increases student performance and retention.

- The Supplemental Instruction program targets historically difficult courses, or those that have a high rate of D or F grades and withdrawals.

- Supplemental Instruction provides regularly scheduled, out-of-class, peer facilitated study sessions.

- Supplemental Instruction attendance is a voluntary program for students to gain support outside the classroom.

“This program helps those who are ready to go from average to stellar, and take those who are stellar to amazing.”

-Amanda Jamison
Chaffey College SI leader
The SI Leader

- Supplemental Instruction Leaders are referred by faculty and have demonstrated competence in the course.

- They are presented as model students of the subject. As such, they present an appropriate mode to thinking, organization, and mastery of the discipline.

- All Supplemental Instruction Leaders attend a training session before the beginning of the term to learn:
  - Instructional strategies aimed at strengthening student performance
  - Data collection
  - Management details

- Supplemental Instruction Leaders attend all targeted class sessions and conduct two or more SI sessions each week.

- Students have the opportunity to become actively involved in the course material fostered by the Supplemental Instruction Leader’s usage of text, supplemental readings, and lecture notes as the vehicle for learning.

- Supplemental Instruction Leaders meet as a group with the Supplemental Instruction Director at least three times during the term for follow-up training, problem-solving, and a collaborative discussion on what techniques work.

- Supplemental Instruction avoids a remedial stigma by focusing on classroom skills rather than individual students.

- While all students may not take advantage of Supplemental Instruction, it does attract an equal portion of students from differing ability levels and cultural groups.
How Students Benefit

❖ Supplemental Instruction is proactive rather than reactive and passive.

❖ Students earn higher course grades while they learn effective study skills.

❖ Supplemental Instruction provides peer collaborative learning experiences that promotes student assimilation into the campus culture.

❖ Supplemental Instruction benefits from a non-remedial image while offering support to all students enrolled in SI courses.

❖ Supplemental Instruction makes effective use of study time.

❖ Supplemental Instruction provides an opportunity for students to develop relationships with other students and staff; an important factor in retention of information.

“It has been a wonderful experience, and I have learned a lot.”

Amy Hydanus
SI leader
Activity: The SI Program

Underline the key words or ideas presented in this summary. Be prepared to share your responses with the group.

1. The SI program targets traditionally difficult academic courses—those that have a high rate of D or F grades and withdrawals—and provides regularly scheduled, out-of-class, peer-facilitated study sessions.

2. Supplemental Instruction does not identify high-risk students, but rather identifies historically difficult classes.

3. Assistance begins the first week of the term.

4. SI sessions are open to all students in the course and are attended on a voluntary basis, free of charge.

5. The SI leaders are key people in the program. They are students who have demonstrated competence in the course that they are leaders in, or a comparable course.

6. SI sessions are comprised of students in varying abilities, and no effort is made to segregate students based on academic ability. Since SI is introduced on the first day of class and is open to all students in the class, SI is not viewed as remedial.

7. SI leaders are trained. This training covers such topics as different learning styles, as well as instructional strategies aimed at strengthening student academic performance, data collection, and management details.

8. SI leaders attend all class sessions, take notes, read all assigned material, and conduct two or more 50-minute SI sessions each week. SI sessions integrate how-to-learn with what-to-learn.

9. Students who attend SI sessions discover appropriate application of study strategies, e.g., note taking, graphic organization, questioning techniques, vocabulary acquisition, problem solving, and test preparation as they review content material.
10. Students have the opportunity to become actively involved in the course material as the SI leaders use the text, lecture notes, and supplementary readings as the vehicle for refining skills for learning.

11. The SI Director is responsible for identifying the targeted courses, gaining faculty support, selecting and training SI leaders, monitoring the quality of SI sessions and providing an overall evaluation of the program.

12. The SI leaders meet as a group with the SI Director during the term for follow-up and problem solving.

13. SI participants earn higher course grades and withdraw less often than non-SI participants. Also, data demonstrate higher re-enrollment and graduation rates for students who participate in SI.

“I realize that every semester will house different experiences...Just like life, SI is not always going to turn out the way you planned, which is OK,”
-Robin Martin
SI leader
Group Discussion

*Group discussion* is probably the most common activity associated with collaborative learning. As such, we tend to take it for granted and rarely give much thought to the dynamics of facilitating a successful group discussion.

However, even slight changes in the way we approach a group discussion can make an important difference in the manner in which group members elect to involve themselves. For instance, note that in the material you just discussed, you were *not* asked to simply read and discuss it. Instead, you were asked to underline the key ideas and *then* discuss it. In this case, underlining the material as you read it encourages active reading rather than passively skimming of the material.

Sometimes the *least* effective way to start a group discussion is to throw out a question and wait for a response. Why do you think that is the case?
### Activity: Tasks of the SI Leader

Form groups of three and discuss with your group one area that you have a question about, or that may be unclear.

<table>
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<tr>
<th>1. SI Leader Training</th>
<th>2. Attend the Targeted Class</th>
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<tbody>
<tr>
<td>o At the beginning of the semester.</td>
<td>o Introduce yourself to the course instructor.</td>
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<tr>
<td>o Throughout the semester.</td>
<td>o Ascertain requirements for the course.</td>
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<td>o Meet with SI staff regularly.</td>
<td>o Introduce SI to the class.</td>
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<td>o Continually announce, in class, the SI schedule and room locations. Also write your session dates and times on the board in the classroom where lecture is conducted.</td>
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<td>o Provide flyers and other promotions to inform students of the sessions.</td>
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<th>3. Conduct Sessions</th>
<th>4. Integrate Content and Learning Skills</th>
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<tr>
<td>o Schedule SI sessions.</td>
<td>o Redirect discussion and questions to the group.</td>
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<tr>
<td>o Plan the session.</td>
<td>o Use the language of the discipline.</td>
</tr>
<tr>
<td>o Prepare handouts and activities for SI sessions.</td>
<td>o Integrate how to learn and what to learn.</td>
</tr>
<tr>
<td>o Gather necessary materials (chalk, pens, etc.).</td>
<td>o Get students organized and get them started, but do not do the work for them.</td>
</tr>
<tr>
<td>o Create a way to “open” your session (game, notes review, etc).</td>
<td>o Constantly try new collaborative learning strategies to increase student-to-student interaction.</td>
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<tr>
<td>o Provide closure (quiz, summary, a suggestion for future study).</td>
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<th>5. Collecting Data and Submitting Paperwork</th>
<th>6. Support Faculty</th>
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<tr>
<td>o Complete student attendance at every SI session (this includes a sign-in sheet and entering student ID’s into our Positive Attendance System -POS).</td>
<td>o Meet regularly with the professor.</td>
</tr>
<tr>
<td>o Submit Session Plan, Week in Review, promotions/flyers, worksheets, and attendance sheets. These will be due every __________.</td>
<td>o Review with the professor any handouts or worksheets you prepare for your sessions PRIOR to the actual session. This will give the instructor an opportunity to give you feedback, and potentially improve the quality of your handouts/worksheets.</td>
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<tr>
<td>o Hard copies of time sheets will be turned in once per month on a designated date.</td>
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Clusters

A *Cluster* is just a group that is broken down into smaller groups. To be effective a cluster should be no larger than three or four people. Using *clusters* can be a powerful way to change the interactions within a group. Breaking people into small groups accomplishes several things:

- It makes them more accountable
- It promotes active processing of material
- It encourages participation by everyone

Sounds great doesn’t it? But it is not as simple as it sounds. Most SI leaders quickly learn they are likely to encounter resistance when they ask students in their sessions to break into small groups. It turns out that students have other ideas about what an ideal session should be. In students’ minds, it would be ideal to simply walk into the session, sit in the back row, not have to say or do anything, and have the SI leader fill their heads with all the information they need to do well in the course. And this will happen…when pigs fly! Until then, the SI leader must find a way to involve SI participants with the material. Cluster groups are a surefire way to do so.

The key to making a cluster group work is to be firm. The FIRST time you tell participants to break into smaller groups, you must show resolve. Otherwise you’ll encounter resistance each time you ask them to break into groups.
Activity: How SI Leaders Benefit

In addition to being a source of income, the SI program also benefits participating SI leaders in other ways. What skills might SI leaders acquire in the following area?

Academic
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Future Employment
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Leadership
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Faculty Relationship/Mentoring
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Life Skills
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Activity: How Students Benefit

From a student’s point of view, what are some of the reasons why SI should be offered in classes that are difficult to pass?

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“One student remarked that listening to the open discussions we had helped the material sink into his brain.”

-Giuliana Cilliani
Chaffey College SI leader
Group Representatives

- Put students into groups.
- Have each group complete an activity.
- Choose a student in each individual group to present their group’s conclusions with the rest of the students.
- The more students have a chance to explain material the better they will retain the information.

“We all, as students, have a common goal at Chaffey. Working with others as an SI leader has shown me the importance of teamwork and mentorship.”

-Jennifer Gerry
Chaffey College SI leader
# The SI Leader and the Professor

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<tr>
<th><strong>Do…</strong></th>
<th><strong>Don’t…</strong></th>
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<tr>
<td>Treat your instructor as your ally, never your adversary.</td>
<td>Criticize the professor during an SI session or at any other time. Students will report this to the professor and it is not helpful. Students are responsible for their academic performance, regardless of the professor’s style.</td>
</tr>
<tr>
<td>Meet with the professor during his or her office hours to clear up any uncertainties you may have regarding material discussed in the SI session, or in the lectures.</td>
<td>Grade papers or tests, or be involved in constructing test items.</td>
</tr>
<tr>
<td>Provide the instructor with feedback about how the sessions are going. Although it is not recommended that professors attend SI sessions, most SI programs will not self-destruct if the professor elects to visit.</td>
<td>Share exact test questions with students if the professor has shown them to you beforehand.</td>
</tr>
<tr>
<td>Show the professor the handouts you plan to share with the students in SI. He or she can help make your handouts more appropriate to the course material.</td>
<td>Set yourself up as a teacher. Your purpose is to facilitate the learning of the material, not to teach, or evaluate the teaching.</td>
</tr>
<tr>
<td>Ask the professor for permission to make announcements to the class. Even though your professor agreed in advance to allow you time to survey the class and to make necessary announcements, it is always good policy to request permission before doing so.</td>
<td>Hesitate to refer the professor to the SI Director if he or she requests anything that you are uncertain or with which you are uncomfortable.</td>
</tr>
<tr>
<td>Be helpful to the professor whenever possible. You do not have to assume the role of being an assistant, but you can offer to help in passing out materials.</td>
<td>Answer questions the professor poses to the class or involve yourself in class discussions unless the professor directly invites you to do so.</td>
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</table>
### The SI Leader and the Student

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<tr>
<th><strong>Do…</strong></th>
<th><strong>Don’t…</strong></th>
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<tbody>
<tr>
<td>Say “yes” to student requests whenever it is reasonable to do so.</td>
<td>Allow yourself to be drawn into an argument with students, or start one. Even if they are clearly wrong.</td>
</tr>
<tr>
<td>Remember that the goal of SI is more than simply helping students score well on the examinations. Many things can contribute to attrition.</td>
<td>Demand that students have to defend themselves to you. For instance, if they miss a session, act concerned, but don’t demand an explanation.</td>
</tr>
<tr>
<td>Recognize the limits of your job description and training. You are a recognized expert on the course, but that is as far as you have to go. Listen patiently to all other problems and refer the student to the appropriate campus personnel.</td>
<td>Say anything that would make you sound like a parent, teacher, police officer, judge, or authority of any kind.</td>
</tr>
<tr>
<td>Attempt to treat all students as you would treat a friend.</td>
<td>Feel obligated to fix problems that students create and can solve for themselves. Just remember to be diplomatic when you must decline the invitation to get involved.</td>
</tr>
<tr>
<td>Provide straightforward, truthful responses.</td>
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### Working with Students

The relationship SI leaders have with their fellow students is critical to the success of SI. Above all, students should always feel welcomed, accepted, and believed by the SI leader. If a student is repeatedly disruptive, the SI Director should be consulted to help deal with the problem student. SI leaders are more effective when they are not perceived as authority figures!
Discussion: The SI Leader and the Student

What would you do in these situations?

1. A student asks for a copy of your lecture notes because, “My mom is in the hospital.”

2. A student asks you for the handouts you have prepared for the SI session but says he or she can’t stay for the actual session.

3. A student repeatedly arrives late for the SI session.

4. The handout you have created is on the reading that was required for the last class session. No one in the group has done the reading.

5. A student tells you “I got a 90 on my last test, so I don’t need to come to SI anymore.”

6. A student confides personal problems.

7. A student is attempting to go beyond the actual content of the course as presented in class or assigned reading.

8. A student gets frustrated with your sessions because they are still not learning the material.

9. A student threatens you.

“When I was told that I would make a good SI leader, at first I wasn’t sure. But, I decided to try it anyway, and I am glad I did. It has been a wonderful experience, and I have learned a lot.”

-Amy Hydanus
Chaffey College SI leader
Round Table Discussion

An open discussion where everybody is on an equal footing. Nobody is at the head of the table; you're all peers. The implication is that everyone has an equal voice and that you can speak your mind freely on the subject.

Round Robin Discussion

An alternative discussion to the Round Table is Round Robin. In a Round Robin discussion each member has a turn (usually timed) to give their input. Turns are usually taken in some kind of order. This gives everyone a chance to contribute.
Conducting the Sessions
The First Day of Class

Hopefully you will get a chance to meet the course instructor before the semester begins. If not, make every effort to speak with them before class begins. When you meet the instructor be respectful and friendly, introduce yourself to them, and politely ask to have a few minutes to introduce yourself to the class.

**The first speech is very important.** The professor and the students will form a lasting opinion of you based on your first intro speech. Be creative and do your best to sell yourself and SI. The second day, your speech will be longer. Many students will come in late or be absent on the first day, and there will be those who did not hear some or all of what you said. Ask the students if they have any questions.

**We recommend waiting until the second class meeting to conduct your survey**

The Second Week of Class

A survey to select the SI session times must be passed out to all students by the second week of class. The SI leader will collect all surveys before leaving the class. The results should be reviewed by the leader, and the times chosen should suit the needs of the majority of students while keeping the leaders own schedule in mind.

It is a good habit to always start writing the SI locations and times on the upper corner of the board at every class meeting. It may seem like a waste of time, however, many students will not consider coming to the sessions until the middle of the semester, and they are more likely to come if the locations and times are readily available to them.

The first few weeks of the semester are hectic for everyone on campus. It is especially so for SI leaders as they have many things to accomplish within this time period. The SI leader must meet the instructor and the students, give speeches, make flyers, and prepare sessions, all while going to their own classes! The first week or two can seem confusing and overwhelming to an experienced SI leader, let alone the novice. It can be difficult to remember everything we learn in a short training period. As a guideline, we have prepared some suggestions for the first weeks.
Sample Plans for the First Two Weeks

You should always use the session planning sheets that are provided by the SI Program. These session planning sheets will help you to format your sessions. You will probably not use this exact sample plan, but it should give you a good idea of the format of a fun, yet productive SI session. This type of plan is really only good for the first couple of weeks. After that, the content of the class will guide the structure of your own sessions.

Sample Session One:

Introduce yourself and talk a little more about SI. This activity should take a maximum of 10 minutes.

Continue with a study strategy activity. Have students write down all of the ways they have studied in the past, then have each student come up to the board and list one of their past study habits. Each student that has done the same thing will put a check next to that method of studying. Then, on the other side of the board, have each student think of different ways to study or to get help with their class. The second list will probably be longer! In case the students can’t think of many, you should be prepared with your own list. This activity should take a maximum of 20 minutes.

After the list is prepared, have each student commit to at least one new study habit for the rest of the semester. Tell them that you will ask them every week if they have stuck with this new habit.

Have the students do five review problems from the class that is a prerequisite to their current class. They can do these problems in small groups depending on how many students are present. If the problems are really easy, you may need to do more than five. Try to put a lot of thought into what the students will need for this semester. What were the crucial skills from the last semester? This activity should be a maximum of 25 minutes.

Do an ice breaker, (see the Ice Breakers and Games sections) such as the M&M category questions, and let everyone eat their M&Ms. Ask the students which study strategies they have chosen for this semester, and why they feel this particular one will be helpful. Also, it is a good idea to go over the syllabus with the students and highlight due dates for assignments and exam/quiz dates. You may want to encourage the students to write down these important dates in a calendar so that they are always aware of upcoming events.
Sample Session Two:

Do an ice breaker such as asking each student what type of music or what band they like best. You can even tell a few jokes related to your subject matter. This helps to create a comfortable atmosphere in which students open up, and in turn cooperate more effectively with each other.

Note taking/retaking exercise: have a student read a portion of their notes out loud. Other students can add things they think should be included, or debate whether certain items are worth taking the time to write down. (See “Cornell note-taking” found later in this manual.)

Start working with new material discussed in lecture.

Sample Session Three:

Open with an activity that makes the students use their textbook. Try to keep textbook activities to less than 30 minutes, as students might get restless. A pre-reading exercise is suitable for a session early in the semester (see the “Polishing Session Strategies” section).

Sample Session Four:

Make flash cards into an exercise. A suggested way is to have the students go through their notes and find any key words, add any bold or highlighted words from the textbook, and then write them on one side of the flash card. The student then writes the definition or example on the other side of the flash card. You will need to bring index cards for the first time (see supply cabinet in SI office for index cards). Eventually, you can encourage the students to bring their own cards. Also, tell the students to keep the cards, because they will use them to study for exams and the final. This can last from 15 to 45 minutes depending on how much material has been covered in the first week.

Work on new material discussed in lecture.

Session Five:

Have the students use the flash cards from the previous session to study in groups.

Have the students make up their own quiz from concepts they feel were stressed during the lecture.

Work on new material discussed in lecture.
Activity: The Second Day of Class

There are many things SI leaders must remember to do on the second day of class. Organize the tasks below, numbering them in the order in which they should be done. After completing the exercise, pair up with a partner to share your ideas.

   ____ Collect the surveys.
   ____ Remind the professor that you will need to make a brief presentation about Supplemental Instruction to the class.
   ____ Arrive on time.
   ____ Conduct your second day speech.
   ____ Hand out a one-page overview or flyer of the SI program that includes some of the information from your speech.
   ____ Write your name on the board.
   ____ Pass around survey.

Other:

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Turn to a Partner

Working in pairs is a fast and efficient way of getting everyone involved in the discussion. Remember, whoever does the most talking also does the most learning. The brain has to work just as hard to articulate something to one person as it does to ten. So, working in pairs is a powerful way to get everyone’s brain working at the same time.
Sample First Day Intro & Second Day Speech

Supplemental Instruction is an opportunity to gather with a group of peers from our class to facilitate learning. Study sessions will include methods on how to retain information from lectures, especially information that may appear on exams and quizzes. Supplemental Instruction is designed for all students, not just those who are struggling. By working together with fellow classmates to review materials, discuss lectures, improve memorization techniques, and learn test taking strategies, everyone will benefit.

As an SI Leader, I will facilitate SI sessions, helping participants to integrate course content with improved learning techniques. All SI session attendees will have the opportunity to participate in each session. Students will take part in group discussions, processing class material, and answering generated questions.

Supplemental Instruction sessions will be scheduled around your availability. Attendance is voluntary. You may attend as many SI sessions as you like. Certainly, if you attend sessions regularly, chances are you will get a better grade. You will develop a better understanding of the course content and improve learning skills, all of which will help you succeed in other courses.
Activity: Introducing SI to the Class

Prepare a short speech to introduce SI to the class. Organize your presentation as though you were attempting to answer questions that students might ask about the program. On the next page there are sample questions and answers.

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“I remember being very nervous about public speaking my first semester in this program, but I have learned from my Supplemental Instruction experience that public speaking does not have to be nerve-wracking.”

-David Elledge
Chaffey College SI leader
Frequently Asked Questions

What is SI?

Supplemental Instruction is a series of weekly review sessions for students taking historically difficult courses. Supplemental Instruction is provided for all students in this class who want to improve understanding of course material.

Attendance at any session is voluntary. For the student, it is a chance to get together with people in your class, to compare notes, to discuss concepts, to develop strategies for studying the subject, and to test yourselves before your professor does, so you will be well prepared for a test. At each session you will be guided through this material by your SI leader, a competent student who has successfully completed the course.

Who is an SI leader?

Have you ever wished you could do something over, knowing what you know now? SI leaders are students themselves, who are prepared to share with you what they have learned over the years about how to study. They know the course content and are anxious to help guide you through it. They attend class with you, hearing what you hear and reading what you read. What they won’t do is lecture; their job is to help you think about the lectures you hear and the books you read, and then put it all together during the SI sessions. Supplemental Instruction can help you learn the course material more efficiently.

When do SI sessions start?

During the first two weeks of class students will fill out a short survey to let the SI leader know which days and times will fit into your schedule. Each SI leader will set up two or more review sessions each week at times that are best for the majority of the students taking the class. You can attend one or all sessions, and each one will be different because you’ll have new material to discuss. SI sessions are informal, and free! Bring your notes, textbook, and questions.

What’s in it for me?

If you attend SI sessions regularly, chances are you will earn a better grade, as well as a better understanding of course content, and more effective ways of studying. This will also help you in other classes. Studies have shown, the more you attend these sessions, the greater your success will be in the class.
Opening the SI Session

Discuss the following issues as a group:

1. How will you arrange the room?

2. Where will you sit?

3. How will you introduce yourself to the group?

4. How will you introduce SI to the group?

5. How will you introduce the group members to each other?

6. What will you do if students come to the first SI session and seem upset when you explain that you will not “tutor” them?

7. How will you explain why participants need to sign in each time they attend?

8. If a student comes in halfway through the SI session, will you still ask the student to sign in?

9. What will you do if only one student shows up for a session?

10. What will you do if no one shows up for a session?
Actual SI Session Plan from a Former Leader:

**Open Floor Questions**

- I will allow about fifteen minutes or so for you to ask questions about chapter five. So prepare as many questions as you can to share with the group!!!!!!

**Tic Tac Toe**

- Get into groups of two or three and gather together a few pieces of scrap paper. I will write a problem down on the board and each group has a minute or so to solve it. When everyone is done, send a member from your group to write down your group’s answer. The group with the correct answer will be able to mark a box of their choice.

**Group Discussion**

- Think about the key points of this session and write them down. We will be discussing them during our closing group discussion.

“As an SI leader, I KNOW I make a difference. I hear it from students, and I see it in the students. I feel it every time they attend a session. A camaraderie develops because everyone attending shares the same goals and mutual cause. I think they look forward to it, as do I!”

-Kimberly Pou

Chaffey College SI leader
Conducting the Session

1. Never go into a group intending to “play it by ear” or “answer questions.”

2. Personally invite students to the sessions.

3. Maintain eye contact.

4. Build flexibility into the organization of the SI. Don’t feel tied to keeping up with the content. You don’t have to “do something” with every bit of information provided.

5. It is more effective to “model” how successful students learn a particular subject than it is to “tell” students what they need to know. Show them how to be independent learners!

6. Make use of the language of the particular discipline, course, and instructor.

7. Wait for students to volunteer a well-developed answer, even if, it takes an uncomfortable amount of time. Join students in looking through notes or text.

8. If students are unable to answer questions, ask for the source of information. For example, ask for the date of the lecture that contained the information and search for the answer together. **Do not simply provide answers!**

9. Encourage students to summarize the major concepts of the lectures. Let other students fine-tune the responses. If information is incorrect, ask students to find specific references in the text or notes to clarify the answers.

10. Avoid interrupting student answers. SI should provide a comfortable environment for students to ask questions or attempt answers. Protect students from interruptions, laughter, or from those with louder voices.

11. Refer to the syllabus regularly. Check that students understand the requirements and dates of reading assignments, projects, and tests.

12. If your group has more than 12 students, divide into subgroups. Provide discussion topics that the groups can explore. Move from group to group, participating from time to time while reassuring the group that you are still there for them. Don’t just sit in the back of the room and read a book or text message. **STAY INVOLVED!**
Discussion: Conducting the Session

What would you do in these situations?

1. When one person dominates the conversation of the group.

2. When students are having side conversations.

3. When students interact only with the SI leader, but not with each other.

4. Every time you ask a question over the course content, the group becomes very quiet.

5. You have one student in the session that rarely talks.

6. If students become confrontational and suggest the sessions are a waste of time.

7. Students who typically do not show up for sessions are being shunned by those who do attend on a regular basis.

“For me, being an SI leader helps in gaining an understanding of pedagogy and offers valuable training to pursue a career in community college teaching. By introducing me to methods of collaborative learning and techniques for improving student retention of course materials, being an SI leader helps me develop a metacognitive understanding of the teaching process.”

~ Dan Staylor
SI Leader
Directing Discussion Back to the Group

One of the most important moments of an SI session happens when a member of the study group asks the SI leader a direct question. If the leader answers the question for the group member, SI sessions will soon be reduced to the SI leader answering questions and re-lecturing over the material. It is therefore critical to the overall goal of SI that questions be redirected to the group to be answered. This is more difficult than it sounds because it’s counter intuitive not to answer a question to which you know the answer.

Questions that require students to think: It’s all in the verbs!

**Level one: Knowledge**
Define-repeat-record-list-recall-name-relate-underline

**Level two: Comprehension**
Translate-restate-discuss-describe-recognize-explain-express-identify-locate-report-review-tell

**Level three: Application**
Interpret-apply-employ-use-demonstrate-dramatize-practice-illustrate-operate-schedule-shop-sketch

**Level four: Analysis**
Distinguish-analyze-differentiate-appraise-calculate-experiment-test-compare-contrast-criticize-diagram-inspect-debate-relate-solve-examine-categorize

**Level five: Synthesis**
Compose-plan-propose-design-formulate-arrange-assemble-collect-construct-create-organize-manage-prepare

**Level six: Evaluation**
Judge-appraise-evaluate-rate-compare-value-revise-score-select-choose-assess-estimate-measure
Activity: Redirecting Questions

Take turns practicing the technique of redirecting the questions listed below (or make up some of your own) with a partner. You may find the phrases for redirecting questions on the next page to be helpful.

<table>
<thead>
<tr>
<th>Questions for person #1:</th>
<th>Questions for person #2:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are proteins amino acids?</td>
<td>1. What is the difference between organic and inorganic matter?</td>
</tr>
<tr>
<td>2. What is meant by the term “dialectical materialism?”</td>
<td>2. Who was William Blake?</td>
</tr>
<tr>
<td>3. When was the Neanderthal period?</td>
<td>3. Can you explain photosynthesis?</td>
</tr>
<tr>
<td>4. Where is the headquarters for the United Nations?</td>
<td>4. What is sickle-cell anemia?</td>
</tr>
<tr>
<td>5. What are descriptive statistics?</td>
<td>5. What is the capital of Germany?</td>
</tr>
</tbody>
</table>

“I have gained much insight on how to improve my method of guiding and assisting the students better in the future. I feel that the SI program is an essential tool that benefits many motivated students in their pursuit of academic excellence.”

-Steve Styadi
Chaffey College SI leader
Directing Discussion Back to the Group

- Does anyone know the answer to that question?
- Can anyone help Carmen answer that question?
- Can anyone find the answer to that in your notes?
- Let’s look that up in the book.
- Let’s see if we can figure out how to answer it together.
- Which words in the question do you not understand?
- Let’s rephrase that on the board and figure out what information we need.
- What do you think about that?
- How would you say that in a different way?
- What are we trying to find out?
- What do you need to do next?
- What do you mean by…?
- Tell us more…
- What else did they do?
- Anything else?
- Can you be more specific?
- In what way?
- What are you assuming?
- Why would that be so?
- How can that be?
- How would you do that?
- Are you sure?
- Give us an example of that.
- How is that related to…?
- Can you summarize the discussion up to this point?
- How does your response tie into…?
- Can you think of another way to think about this?
- Would any of you like to add something to this answer?
- How is your answer (point of view) different from…?
- How could we phrase that into a question to ask the professor in the next class?
- What do we need to know in order to solve the problem?
Referring Students

Break into groups of two. Discuss with your partner your recommendations on where to refer students who reported the following difficulties:

1. “Someone broke into my car and took my books.”
2. “English is my second language, and I’m having difficulties following the lectures.”
3. “I would like to get involved in some campus organizations.”
4. “My father recently passed away.”
5. “I have a learning disability.”
6. “I would like to find out if there are other students here who are from my country.”
7. “I think I’m going to drop because I can’t afford to go to college anymore. I need to work full-time.”

“Being an SI leader has been a rewarding experience. Not only do I have an opportunity to work alongside a professor who teaches a subject I highly respect, but I work with such a collaborative, motivating group of individuals. It is also rewarding knowing I can assist and encourage students to try to achieve for higher expectations than to settle for an average grade.”

-Lisa Park,
Chaffey College SI leader
Closure Techniques

To ensure that students do not lose sight of the “big picture,” reserve the last few minutes for review. During this time books or notes should not be used.

Technique #1: Informal quiz
When time permits, an informal quiz helps students put the important ideas together.

Technique #2: Predict test questions
Divide students into groups of two or three. Have each group write a test question for a specific topic, ensuring that all major topics have been covered. Ask students to write their question on the board for discussion. This technique requires more time, but the benefit is that students see additional questions which focus on the specific material that has just been presented.

Technique #3: Identify the “Big Idea”
Ask each person to tell what he or she thought was the most important concept, idea or new understanding they learned during the session. We call these, “take homes,” that is, if they could only take home one thing from the information that was presented, what would it be? Ask each student to offer a different “take home.” This technique can be useful if you’re nearly out of time.

If there is sufficient time, have students organize the selected topics into more generalized concepts. We know that students frequently feel overwhelmed by the sheer volume of information that they have to deal with during the term. They need practice with organizing all of the information presented.

Technique #4: Predict the next lecture topic
Have students predict the next lecture topic. See if there are connections between the last lecture and the next one. This activity helps to prepare them for the new material, especially if it can be connected to information they have just mastered in SI.

Technique #5: Summarize the procedure / steps / etc.
Sometimes it is more important to go over how an answer was arrived at, rather than reviewing the answer itself. Remember to allow time for the process of learning.
Closing the Session and Reviewing for Exams

Break into groups of three or four. Assign each person in the group one of the questions presented below and ask them to lead the group in a discussion about the issue the question addresses.

What do you think?

1. Why is it generally important to provide “closure” at an SI session?

2. If things are really going well during an SI session, should the leader stop to do “closure?” Why or why not?

3. Many SI leaders report that they find it difficult to use closure techniques at an SI session because they run out of time. What recommendations can you offer to avoid this problem?

4. When is the best time to offer a review for a major exam? Right before the exam or several days in advance?

5. How would an SI session that takes place before a major exam differ from a regular SI session?

6. What would you do if you typically have six to nine students show up for each SI session, and twenty-five show up right before the exam?

“Being an SI leader has helped me to grow as a leader, as well as a student. I couldn’t ask for a better job!”

-River Dowd-Lukesh
Chaffey College SI leader
Discussion: SI Attendance Strategies

Select your top three strategies for improving attendance at SI sessions and discuss them with your group.

1. Distribute reminder handouts to attend SI sessions throughout the term. These can be in the form of a flyer, bookmark, pencil, etc.

2. Offer sample tests in SI sessions with questions developed with the instructor. The instructor could make these available in class with the comment that they will only be discussed during the SI session.

3. Report the number and/or percentage of test questions covered in SI sessions.

4. Provide time for regular verbal encouragements to attend SI sessions.

5. Use worksheets during SI sessions, especially in problem-solving courses. Even the use of empty matrix worksheets may encourage students to attend who need something tangible to take away from the SI session. Create the worksheet ahead of time so you can display it during class to encourage them to attend. It is good for them to know you have prepared something for the session in advance.

6. Post anonymous quotations from students on how SI has helped their performance. Include some of these with the SI handout on the first day of class.

7. Write the SI times and locations on the board during each class.

8. Report differences in final course grades from previous terms.

9. Offer something specific in SI sessions: a study skill, rules for problem solving, games, text review, exam review, etc.

10. Resurvey students and change SI times to accommodate more students. (Sometimes student’s schedules change after the first week of classes).
Polishing Session
Strategies
Collaborative Learning Techniques

Group Discussion

A *group discussion* is, more or less, just like it sounds: a general discussion of an issue or topic by the group. Individual members are free to contribute or not.

Hints: This is the most common form of collaborative learning. It is also the form that requires the most skill to use successfully.

Ideally, everyone is actively involved in the discussion and the discussion topic is of equal interest to all group members. When group discussion is successful, it may be difficult to determine who is actually leading the discussion.

Clusters

In *clusters*, group participants are divided into smaller groups for discussion. They may also be allowed to self-select the small group they want to be in. After discussing the assigned topic, the cluster may report its finding to the larger group.

Turn to a Partner

In *turn to a partner*, group members work with a partner on an assignment or discussion topic.

Hints: This technique works best with group participants who have already been provided with enough background on a subject. They can immediately move to a discussion with their partner without previewing or reviewing concepts.
**Assigned Discussion Leader**

In the *assigned discussion leader model*, one person in the group is asked to present on a topic or review material for the group and then lead the discussion for the group. This person should not be the regular group leader.

Hints: When assigning a discussion topic to individual members of the group, allow a little time for the person leading the discussion to prepare.

This technique works best when everyone or nearly everyone in the group is given an assignment to be the “expert” on.

Group members work on an assignment or project individually and then share their results with a group.

---

**Think/Pair/Share**

When doing *think/pair/share*, give participants a specific amount of time (30 seconds, 5 minutes, etc.) for the “think” portion.

The goal of a *think/pair/share* is to allow participants time to think BEFORE a discussion. Research shows that when people are given time to contemplate an answer to a question, their answers differ from those they would give if they responded immediately.
Individual Presentation

An individual presentation is an uninterrupted presentation by one person to the group. Group members present a topic, question, or issue to the group. Unlike an assigned discussion leader, this is a formal presentation delivered to a captive audience.

Hint: Use individual presentations sparingly, and only when independent research is required.

Jigsaw

Jigsaws, when used properly, make the group as a whole dependent upon all of the subgroups. Each group provides a piece of the puzzle. Group members are broken into smaller groups. Each small group works on some aspect of the same problem, question, or issue. They then share their part of the puzzle with the large group.

Hint: When using a Jigsaw, make sure you carefully define the limits of what each group will contribute to the topic that is being explored.

Group Survey

The group survey questions each member to discover their position on an issue, problem, or topic. This process ensures that each member of the group is allowed to offer or state a point of view.

Hint: A survey works best when opinions or views are briefly stated. Be sure to keep track of the results of the survey.
Lecture Review

1. During the first 10-15 minutes of the session, have the students summarize the most recent lecture.

2. Give students 3 minutes to find support in their notes for a given generalization.

3. Have the students predict the direction of future lectures, based upon past lectures.

4. Have students arrange terms from lecture and text into a structured outline.

5. Reinforce new terms of important information by using clearly constructed handouts. Handouts can be complete or nearly complete at the beginning of the term, but should gradually require more and more filling in as the group becomes more accustomed to working together.

6. Review material from previous sessions and lectures. Write questions that can be answered by your notes.

7. Take a couple of minutes at the end of the SI session to summarize the main idea covered during the session. Ask the students to help summarize.

8. Have students write a one-paragraph summary of the lecture. List the new vocabulary terms introduced with this lecture.

9. Formulate potential exam questions, based on the main ideas from the lecture.
Oral Reading of Lecture Notes

Lecture note review is a good strategy to use early in the academic term. Why?

- Students see the importance of taking comprehensive notes.
- Students can fill in the gaps in their notes, as well as clear up discrepancies.
- Each student in the session has a chance to participate.
- SI leaders highlight and discuss the language/vocabulary of the discipline.
- Students identify meaningful examples and check for understanding.
- Students can write questions from their notes and use it as a practice test.

**Procedure:**

1. Tell the group that you will begin reading from your lecture notes and will ask the student on your right or left to pick up where you stop. Let them know that the role of the reader will move to each student in the circle.

2. Look at the students and encourage them to let everyone know if something is left out or is inconsistent with what they have recorded. To note an inconsistency does not mean that someone is necessarily right or wrong; moreover, members of the SI group will discover how to remedy the problem through the following resources:
   - Ask the student who disagrees to read from his or her notes.
   - Ask the group if their notes compare.
   - Check in the textbook for support; add the page reference to the notes.
   - If a consensus is not reached, work with the students to formulate specific questions to ask the professor in the next class.

3. The pressure of reading may unnerve a student who believes that his or her notes are too poor to read. Since reading aloud is a form of performance, some students may be reluctant. Gently encourage the student, but don’t push. Perhaps note taking skills and confidence will improve as the term progresses and the usefulness of good notes becomes apparent.

4. If it is near the end of the SI session and material has not been discussed, suggest to members of the group that they should finish reading through their notes. If they have questions, tell them to work with another student to find the answers, or to bring these questions to the next SI session. Encourage students to read over the items in their notes, and to use the text to supplement their notes.
Incomplete Outline

The incomplete outline is an excellent means of helping students recognize the main points and the organizational pattern of information given in lecture. It can also be used to organize textbook information. Determining the major points can help sort information and locate the ideas being communicated, making connections easier to find and understand. It helps the students to figure out what’s important.

Procedure:

Step 1 - Point out that the main points might not be clear from a specific lecture (or series of lectures) and present to the group an outline with some of the parts missing.

For example: Aspects of Medieval Life

I. _____________________________
II. _____________________________
III. _____________________________

Step 2 - The group must then work through their notes to figure out how to fill in the outline.

Note: This activity is an excellent way to gradually promote group independence. At the beginning of the term, provide outlines that are nearly complete with some of the items filled in and all of the numbers and letters filled in. As the term progresses make the outlines more and more incomplete, putting in fewer and fewer entries, then eliminate the notation altogether. By the end of the term, students should be able to complete their own outlines without assistance.
The Matrix

A matrix is used when the same types of information are provided in the notes or text for a set of topics. A matrix helps students organize information by showing relationships to similar categories of information.

Colonization

<table>
<thead>
<tr>
<th>Term</th>
<th>Religious</th>
<th>Economic</th>
<th>Political</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dutch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sample Vocabulary Matrix

<table>
<thead>
<tr>
<th>Term</th>
<th>Paraphrased Definition</th>
<th>Example from Lecture</th>
<th>Example from Textbook</th>
<th>New Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oligopoly</td>
<td>a market where a few firms produce all or most of the market supply of a good or service</td>
<td>airlines</td>
<td>soft drink manufacturer</td>
<td>domestic car makers (G.M., Ford, Chrysler)</td>
</tr>
<tr>
<td>Monopoly</td>
<td>a firm that produces the entire market supply of a good or service</td>
<td>Niagara Mohawk</td>
<td>None</td>
<td>New York telephone local service</td>
</tr>
</tbody>
</table>
Visual Techniques

Some students learn well by creating visual study aids. This type of learner may actually picture the page of notes when answering essay questions on a test. Therefore, notes that are clear, concise, and well organized are essential. There are a variety of ways to summarize notes in a few words.

Some of these techniques include mapping and picturing. The best visual techniques do more than just condense notes; they help students understand the relationship between topics covered in various lectures and provide a "big picture." Students who simply memorize their notes as if they contained a series of several hundred unrelated facts may easily miss the point. Visual techniques help pull the ideas together.

**Mapping** and **picturing** are used to draw a picture of the concept presented verbally in the lecture. The relationships between the topics are stressed in the map by the use of arrows. There are many types of mapping and picturing techniques. Two are shown below. These must be adjusted to the subject matter. The key idea is to visualize the information and to use as few words as possible.

<table>
<thead>
<tr>
<th>Mapping:</th>
<th>Picturing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ \text{Independence of Women} \downarrow \text{DIVORCE} \leftarrow \text{No social stigma} \uparrow \text{High expectations of Happiness} $</td>
<td>Positions of Theorists on Basic Assumptions</td>
</tr>
<tr>
<td>$ \text{Freedom} \quad \text{Maslow, Rogers, Freud, Skinner} \quad \text{Determinism} $</td>
<td></td>
</tr>
<tr>
<td>$ \text{Holistic} \quad \text{Jung, Rogers, Maslow, Freud} \quad \text{Atomistic} $</td>
<td></td>
</tr>
<tr>
<td>$ \text{Environment} \quad \text{Skinner, Erickson, Freud, Jung} \quad \text{Heredity} $</td>
<td></td>
</tr>
<tr>
<td>$ \text{Good} \quad \text{Rogers, Maslow, Freud} \quad \text{Evil} $</td>
<td></td>
</tr>
</tbody>
</table>
The Informal Quiz

1. The informal quiz is a procedure used in small group study sessions, which is educationally compatible with the goals and objectives of SI. Although the title implies a testing tool, this quiz is not intended to be used as a method of formally evaluating student work. The focus is on learning versus grading.

2. In general, the informal quiz is used to develop and reinforce comprehension, improve retention of information, stimulate interest in a subject area, and promote student participation in the study session.

3. More specifically, the informal quiz enhances an educational experience in the following manner:
   ⇒ Allows weaker students to participate equally with stronger students in the same session then, since questions are designed to have more than one correct answer.
   ⇒ Permits each student an opportunity to demonstrate competence. Allowing the random answering of questions, it allows shy or unsure students to voluntarily answer the one or two questions for which they have answers.
   ⇒ Promotes students’ self-testing of their comprehension levels.
   ⇒ Provides the SI leader an opportunity to reinforce student participation.
   ⇒ Allows students to work with test material in a cooperative rather than competitive way.
   ⇒ Facilitates students’ ability to interpret, answer, and predict test questions.

4. Informal Quizzes are a non-threatening activity for the following reasons:
   ⇒ Everyone is writing, even if they do not know the answer since they can write down the question instead.
   ⇒ Paper is not turned in or seen by other students.
   ⇒ Provides a mind-set for the SI session.

The goals may appear to be excessive for what is feasible within an SI session; however, these goals can be accomplished in a small way each time the procedure is used. The informal quiz frequently is used at the beginning of the session. The whole procedure may take no more than 10 to 15 minutes. However, the discussion generated by one or more questions may become the focus of the SI session.
The Informal Quiz Procedure

1. Use scrap paper or half sheets to emphasize the informality of the quiz.

2. Ask a majority of questions requiring short multiple answers, e.g., “Name one of the three ways to....”

3. Focus on current material but include two or more concepts the instructor will want the students to understand.

4. Most questions should not be difficult, but should emphasize the recall of key points or of minor points related to key points. One or two questions should require use of higher order thinking skills (see Bloom’s Taxonomy in the “Directing Discussion Back to the group” section).

5. Questions on familiar material can be varied, e.g., the following:
   a) "The answer is ________________; what is the question?"
   b) "I can’t think of any more. Does anyone have a question I might have asked?"

6. If there are students who aren’t writing answers, say, “If you don’t know the answer, write the question so you will remember what it was you didn’t know.”

7. In answering questions, ask, “Who would like to answer a question-any question?” Starting with any question instead of the first question contributes to the informality of the quiz and allows a student who only answered a few questions accurately to immediately participate.

8. Call on the quieter or weaker students first, whenever they have raised a hand.

9. Restate the question before the answer is given.

10. If possible, find something complimentary to say about wrong answers, “That’s a very good guess. If I weren’t sure, I might have guessed that.” Don’t let wrong answers stand.

Vocabulary Activities

All disciplines have technical terms which have precise definitions in that subject matter, and may mean something quite different in another context. One of the purposes of most introductory courses is to teach students to speak “the language of the discipline.” Therefore, a clear understanding of the technical vocabulary in the course is essential for the students in your sessions. Students must be able to do more than simply “parrot back” rote definitions of terms. They must be able to paraphrase the meaning of the term, understand how it fits in with the topic under discussion and apply it.

Vocabulary Activity Goals

1. Identify key technical terms in notes and text to generate a precise definition.
2. Paraphrase the definitions in notes and text.
3. Understand the relationship between one term and other key terms which fall under the same topic.
4. Create a parallel example to the one given in the notes or text.
5. Be comfortable enough with the terms to “speak” the language of the course, both in the group and on tests.

Procedure:

Here is a list of suggestions for working with course vocabulary in groups:

1. Don’t “translate” - use the term yourself. For example, if a student in an economics session were to talk about “product satisfaction,” the SI leader might ask, “And what is the economic term that means satisfaction?” Then, the student will use the economic term "utility," rather than the equivalent translation, “satisfaction.” Remember: on essay tests one of the things instructors are looking for is whether the students can use terms correctly.

2. Before a test, create a handout to help students identify terms in their notes by passing out red pens and suggesting that they circle all key terms in red. Have one of the students record the complete list on the board. Put students in groups of two or three. Ask that they refer to their definitions and pair together terms they feel are connected in some way. Finally, have them report back to the larger group.
3. Create a vocabulary matrix. Get students to work together to fill in the matrix (see example below). One student can work with lecture notes and the other with the text. They may also work together to create the new example.

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
<th>Example from Notes</th>
<th>Example from Text</th>
<th>New Example</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Create vocabulary note cards for a quick review.

5. When appropriate, introduce the meaning of Greek or Latin roots that will help students remember their technical terms. For example, in sociology, students who know that the root “gam” means “marriage,” have an advantage on a test question which asks about “exogamy.” A good way to present key roots is to put the root on the board and then ask students to name as many words as they can think of that come from the root.

**Example:** “GAM”--bigamy; polygamy; exogamy; endogamy; monogamy

Ask what the words all have in common. This way the group figures out the meaning of the root themselves. They can use this same procedure once they become proficient when faced with an unfamiliar word on a test or in a textbook.

**Vocabulary – Summary**

1. Continually use and review vocabulary words from previous lectures and the text.
2. Have students predict vocabulary words that might be used in a lecture from text readings.
3. Work with students on the application of terms. Instead of saying, “What does ______ mean?” say, “Here is a situation....This is a good example of what?”
Time Lines

Time lines can be an effective way to show a continuum of events or ideas. Students can use time lines as a frame on which they can hang additional information.

Double Time Lines
It is important that students understand the relationship between new material they are learning and what they already know. A historical perspective on key dates in the notes and text can be very helpful. For example, if a Psychology instructor mentions a study which was completed in Germany in 1939, the student should automatically place this information in the context of Nazi Germany. More recent information can often be related to events in the student’s own life to make it more meaningful.

Procedure:
Make sure the dates are truly important before using this procedure. Make a brief, very general time line of events happening in the U.S. and/or world at approximately the same time as the dates presented. Give this general time line to the group at the beginning of the session.

Have students draw a duplicate time line directly below the one previously constructed. They should work in pairs to find key dates from the notes and text and place them on the new line. Discussion should center on events which were happening at the same time as the dates which were presented in class.

Samples
1. U.S. Events (Initial time line)

<table>
<thead>
<tr>
<th>Erie</th>
<th>Canal Railroads</th>
<th>Civil War</th>
<th>Industrialization</th>
<th>WWI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1825</td>
<td>1850</td>
<td>1860-65</td>
<td>1900</td>
<td>1917</td>
</tr>
</tbody>
</table>

2. European Immigration to the U.S. (Secondary time line)

<table>
<thead>
<tr>
<th>Wave I Irish &amp; German</th>
<th>Wave II N.W. Europe</th>
<th>Wave III S.E. Europe</th>
<th>Quotas</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1840</td>
<td>1880</td>
<td>1915</td>
<td>1921</td>
</tr>
</tbody>
</table>
Preparing for Exams

Often students become anxious simply by the language of the question. It is important that students in your sessions begin to develop the skill of predicting test questions. Once they discover that the origin of test questions is not always mysterious, they will feel much more confident going into their test. You can help students develop this confidence and skill by creating practice exams in the sessions. This type of activity is good shortly before an exam when you have a large number of non-regular participants in the session. Plan to work together with students to create study sheets for each predicted question at the next session before the test.

The purpose of teaching students how to predict test questions is to help them become independent learners. They can take this skill with them in their future classes.

Reminders of Exam Dates
The dates of exams should be reviewed regularly so that students are reminded to start studying early.

Identify Exam Format
Discuss with the students the kinds of questions to expect on exams. Also explore the amount of emphasis that will be placed on the text, lecture, outside readings. For example, one half of the points are earned through multiple choice items that focus on information from the lecture and text; the other half of the possible points are earned through two essay questions that focus on the supplemental readings, or the assigned novels.

Develop Practice Exams
Have students submit three to five questions. These questions can be assembled into a practice or review exam and returned to students for study. If appropriate, periodically offer practice essay questions. Ask students to outline the answer first. Initially, have the students use their book and lecture notes, but work toward a normal test situation. Provide sample summary sheets for each exam which provide less and less information, thus forcing students to become progressively more and more independent and able to write their own summaries. The first summary sheet could be written by the SI participants as a group. If the professor distributes a sample question or has a file of previous tests on reserve in the library, discuss the wording of the question in the SI session.

Use Practice Exams in the SI Session
Ask the instructor to look over questions and make suggestions. With the instructor's permission, announce to the class that the practice exam will be used in the next SI session. If possible, ask the professor to suggest that students take the practice exam.
Post Exam Survey

Following are some questions students might like to think about after taking an exam. Answers to these questions could help them focus on effective exam preparation strategies. Research suggests that each student has their own pattern of the types of errors they commit during examinations. Helping students to self-discover those patterns will help them to self-correct. One goal is to identify correct answers and associate them with study skills that worked for the student or identify incorrect answers and discover study skills that might be helpful.

1. Which part of the exam was the easiest for you? Why?

2. Which part of the exam was the most difficult? Why?

3. Which of the following activities did you complete prior to the exam?
   a. All required reading assignments.
   b. Preparation and review of reading notes.
   c. Review of lecture notes.
   d. Self-testing of material to be covered by the exam.
   e. Prediction of possible questions by you prior to the exam.
   f. Study with friends.
   g. Others.

4. Which of the above did you find most helpful in preparing for this exam?

5. How much time (in hours) did you spend preparing for the exam?

6. Did you feel prepared when you walked into the exam? Why or why not?

7. What changes might you make in the way you study for the next exam in this course?
Math Sessions

Structure the SI Sessions
At the beginning of the academic term, SI leaders must provide structure to the SI sessions; don't expect to arrive at SI sessions with the intention of "answering questions." We have a Math Success Center that can do that! You should write an agenda of the session on the board for each session.

Syllabus
Review the syllabus with the students early in the academic term. Take note of the homework assignments, exam dates, and grading policy.

Pre-lecture Notes
Use the syllabus to guide you to the important parts of the text chapter and note which problems are assigned as homework.

Look at chapter headings, subtitles, diagrams, and captions, and scan the text briefly. When appropriate, turn the headings and subtitles into questions and make a brief outline of what is being presented. In the margins of your outline, list significant terms and attempt a brief definition. Say the terms out loud. Leave space in your outline so you will have room to incorporate lecture notes with your pre-lecture notes. Try taking your pre-lecture notes from the text in one color of ink, and lecture notes in another color of ink. Be sure to read the chapter summary.

During the lecture, add the pre-lecture notes to the class lecture notes. Work through the problems along with the instructor. After the lecture, work on homework problems which relate to the activity. Reread the text book sections which apply.

Lecture Notes
During the first week of your SI sessions, talk about lecture notes in the math course. If possible, look around the room during the lecture to see how students are reacting to the material being presented. For example, if the professor is discussing graphs, the students may have difficulty copying the graphs while taking notes about them. You may want to distribute copies of your lecture notes one time so students can see your strategies for note taking. This can provide a basis for a discussion of note taking skills.
During the discussion on note-taking, you can suggest they use the Cornell method of note-taking. This system makes use of summary margin paper or graphic paper, with a three inch margin on the left-hand-side for important notations. You can also share, for example, how you concentrate on what the instructor is doing, and how to get as many details as possible without getting distracted by trivial information. Students will see the benefit of using summary margin paper when you suggest they take notes during the SI sessions in the margin of their lecture notes. Encourage students to rewrite their lecture notes as soon as possible after the lecture. Remember to ask other students to share their strategies as well.

**Textbook**

Share with students your method for reading the textbook. Focus on the different parts of the chapters: sample problems, new symbols and vocabulary, discussion, and homework problems.

**Strategies**

Math SI sessions focus on getting students to work on problems. We encourage SI leaders to have the students first write problems on the board. Then ask students, "What do we do first?" or "Where do we start?" Promote interaction and encourage students to help each other. For example, to start the session, have students work on a word problem or statement problem for about five minutes. Then have them pair up and discuss the problem. This technique helps students discover different ways to solve similar problems while helping each other. SI leaders need to help students see the progression of mathematics. For example, the SI leader might point out that a student will see a new application for a familiar concept when moving from algebra to calculus.

**Worksheets**

Develop worksheets for use during the SI sessions which help generate discussion, focus on key concepts, and allow students the opportunity to easily identify their weaknesses. Worksheets also help students review for exams and allow the SI leader to guide students to consider math problems that are most representative of the key concepts that the professor wishes the students to learn. It also allows the SI leader to work out the solutions to the problems ahead of time. Try to develop the worksheets so that they look different than homework assignments. Use different symbols other than x and y, (i.e 畎). Make it fun! For word problems, use celebrity names or local restaurants.
Problem Solving SI Sessions

Problem-solving courses such as chemistry, physics, or mathematics are major obstacles for many students. Students often do not know how to begin to attack a problem, or do not know what to do when they encounter difficulty.

- Many college instructors do not have time to present problem-solving strategies in class. In general, SI creates a "safe haven" for students to learn and develop general problem-solving skills.
- In SI sessions, attendees help each other by actively exchanging strategies for problem-solving.
- Students need to become part of a collaborative, mutual-help team, attacking a common problem and solution together by pooling resources. When students get stuck, the manner in which SI leaders handle the situation determines whether the student gains an understanding of the process or merely arrives at a right answer.
- A model of board work that facilitates a process understanding of problem-solving strategies in chemistry is presented below. It shows how four types of information are placed on the board while problem-solving is modeled in an SI session.
- This model employs essential components for understanding neatness, orderliness, logical development, and visual models. Well organized board work in SI sessions is crucial in helping students understand how to solve specific problems.

Board Work Model

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Steps in the Solution</th>
<th>Rules</th>
<th>Similar Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>This first step includes relevant equations, formulas, charts, and general rules for solving this type of problem, along with the source.</td>
<td>XXXX + X XXXXX = XXX XXX</td>
<td>Here, a narrative description of what is done in each step of a solution is written down.</td>
<td>XXXX + X XXXXX = XXX XX</td>
</tr>
<tr>
<td>For example: % yield = actual theoretical</td>
<td>The SI leader or the student(s) model the solution step-by-step with what is done in each step of a solution and why it is done.</td>
<td>1.</td>
<td>Here, students check their understanding, using prerequisites, steps in solutions, and rules as learning aides.</td>
</tr>
<tr>
<td></td>
<td>1.</td>
<td>2.</td>
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<td></td>
<td>4.</td>
<td>5.</td>
<td>4.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Answer and a source for verification.</td>
<td></td>
</tr>
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</table>
SI leaders use the board work model when (1) students don't know how to solve a problem, (2) students are “stuck” within a problem/solution, or (3) to check student understanding of how to solve each type of problem. This type of board work model includes the following:

1. SI leaders need to model the value of learning and using prerequisite information like formulas, equations, charts and general rules in solving each type of problem. Students need to see the sources of information for answers and for solutions to each type of problem.

2. Students see models of how to solve each type of problem as SI leaders or students think through, verbalize and write out solutions that include explanations of what and why something is done step by step.

3. At any point in the modeling process, allow students to ask questions.

4. Rules for solving each type of problem are written in narrative form on the board. This allows students to utilize verbal skills in understanding problem-based courses, as well as quantitative skills.

5. Students need to be given a chance to practice and/or check their understanding of how to solve a problem by doing a similar problem of their own.

6. SI leaders must avoid re-lecturing or simply telling students how to solve problems. This has little value in helping students understand problem-solving processes.

7. Numbering each step is a great help to students because they can clearly identify each step in an actual solution. When students break problem-solving down into the component steps, they can more easily pinpoint gaps in understanding, ask informed questions about the problem-solving process, and practice their current understanding of the problem-solving process to enhance clarity.
Study Skills
Note Taking

1. Full-sized, three-ring notebooks are best for containing all lecture notes, handouts, and notes from the text and readings. Why? Pages can be arranged chronologically with pertinent handouts inserted into lecture notes for easy reference. If you miss a lecture, you can easily add missing notes. Course materials are kept all together.

2. Date and number your note pages and your handouts. It will help with continuity.

3. Give yourself plenty of blank spaces in your notes, as well as plenty of room to write. This will allow you to make additional notes, sketch helpful graphics, or write textbook references. Your notes will be easier to read if you write in pen and use only one side of the paper.

4. Law-ruled or summary-margin paper is helpful with a three-inch margin on the left side of the page. If you can’t find this paper, draw the margin on each piece of paper. This sets one up for using the Cornell format of note taking. Write your notes on the right side of the line. After the lecture, use the left margin for key words or phrases, or sample questions when you review the notes.

5. Take as many notes as you can. If you miss something, leave a space; you may be able to fill in the blanks later. Do not stop taking notes if you are confused or if you want to ponder a particular concept. You will have time for that later. Abbreviations are extremely helpful. Suggestions for abbreviations are listed in this section.

6. It may be difficult to make your notes look great or to have them extremely organized as you write them. Work with your notes as soon after class as possible when your recall is at its best. You may be able to fill in some blanks. Color coding can bring some organization to your notes. For example, identify concepts and categories by highlighting items with a particular color. If you still have problems organizing your notes, begin to formulate a specific question to ask your professor or your SI group.
7. As you review your notes, look at the information as answers to questions. As these questions become clearer to you, jot down the questions in the left margin. You may also write key words or phrases in the left hand margin that cue your recall of definitions, theories, models, or examples. Now you are ready to try to recall the information in your notes. Cover the right side of your notes, leaving only these cues (whether there are questions or key words) to test yourself.

8. As you begin to put the material of the course together, add a generic question - WHY? - to your answers. You need to know why any particular answer is correct. You need to know why the information is pertinent to the course. This will also prepare you for essay exams.

Example of Cornell notepaper
Note Cards

Creating and using note cards can alleviate anxiety about remembering facts throughout an academic term, as well as provide a portable study tool. An additional advantage of using note cards is to present written information out-of-sequence. This will help you learn the information free of association to the information proceeding and following it.

Procedure

1. Three-by-five cards can hold important information from notes and reading. Write the cue or question on one side of the card and write the definition, description or answer on the other side.

2. Begin compiling the cards early in the term. Carry the cards with you and review the information many times during the day and evening.

3. The information that does not come to mind readily can be reviewed more often or placed in a “critical” stack. Repetition is the best way to learn the material.

“One of the core ideas of SI is to get students out of the habit of depending on assistance [and] give them tools to help themselves and others. Each semester reminds me that no matter where I am or what I do, I can never stop learning.”

-Amanda Rana
Chaffey College SI leader
Mnemonic Devices

Mnemonic devices are aids for improving one’s memory. These devices can be much more efficient than rote memory techniques (learning by simple repetition). Mnemonic devices generally attach new information to be learned to old information already mastered, or to catch words or phrases that are more easily remembered.

**Jingles**
Days in each month—“30 days hath September, April, June and November”
Spelling generalization—“i before e except after c”

**Acronyms (catchwords)**
The Great Lakes—HOMES
The only spot in the U.S. where four states meet—CANU (Colorado, Arizona, New Mexico, Utah)

**Acrostics (catch phrases)**
The colors of the spectrum—Roy G. Biv
The order of the planets from the sun—My very educated mother just served us noodles (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune)
Order of Operations—Please Excuse My Dear Aunt Sally (Parenthesis, Exponents, Multiplication, Addition, Subtraction)

**Procedure for Developing Acronyms and Acrostics (Catchwords/Phrases)**

Step 1: Present information to be learned. Underline the first letter of each word.
Step 2: Devise a word or phrase (nonsense or otherwise) using each letter underlined.

For example: Psychology - 4 symptoms of schizophrenia
1) withdrawal 2) hallucinations 3) inappropriate emotional response 4) delusions
   Catchword: whid

For example: Chemistry - 7 diatomic molecules
Bromine, Hydrogen, Chlorine, Fluorine, Oxygen, Nitrogen, Iodine
Catch phrase: Brian helps Claire find out new ideas.

To use this for a series of phrases, first circle the key word. Then, underline the first letter of each key word and form the catchword/phrase as outlined below.

For example: Psychology - Abraham Maslow’s theory of basic human needs:
1) biological 2) safety 3) companionship 4) esteem 5) and self-actualization can become the catch phrase: Bob sings clearly each afternoon.
Eight Ways to Abbreviate

1. Symbols and graphics

= equal * important > greater than
≠ does not equal ** very important < less than
& and # number $ cost, money
w/ with w/o with out vs versus, against
( ), { }, [ ] = information that belongs together

2. Abbreviations (don’t worry about punctuation)

cf = compare eg = for example dept = department
NYC = New York City mx = maximum mn = minimum

3. Use only the first syllable of the word

pol = politics dem = democracy lib = liberal

4. Use the first syllable and only the first letter of the second

subj = subject cons = conservative

5. Eliminate the final letters; just use enough to recognize the abbreviation

assoc = association biol = biology rep = repetition
intro = introduction concl = conclusion info = information

6. Omit vowels from the middle to words

bkgrd = background pprd = prepared estmt = estimate
gov = governor rdng = reading orgnsm = organism

7. Use apostrophes

gov’t = government am’t = amount cont’d = continued

8. Form a plural of a symbol by adding “s”

co-ops = cooperatives libs = liberals /s = ratios

Reading Textbooks

As an SI leader, ask yourself the following questions:

- What should students know when they finish this chapter? What are the major concepts that the students should understand? What supporting information or details should they remember on a long-term basis?
- What should students be able to do when they finish the chapter? What background information is essential to perform the required task?

1. Draw attention to the items you believe are important for success in this course. Ask students why the items are important.

2. Encourage students to read assignments before the topic is discussed in class. Previewing the readings allows students to better manage their time and information gathering. From time to time do this together in SI sessions.

3. Review how to read charts, graphs, and diagrams. Discuss the importance of understanding the information gleaned from the graphic.

4. Help students formulate questions from textbook headings, vocabulary, and diagrams.

5. Integrate lecture notes with readings. Does the information in the text complement or extend the lecture information?

6. Show students how to supplement their notes using the index of the text. For example, topics may not be addressed within the pages assigned. Check the index to see if the topic is addressed in another section of the text.
Textbook Activities

1. Write a study guide for a chapter in the textbook. Distribute this to students attending SI. Encourage students to prepare their own study guides for other chapters.

2. Have students compare two sources of information about the same topic - the text and the lecture. Note information found in both sources as especially important.

3. Preview chapters during the SI sessions, but be careful you don’t put the session in “lecture mode”.

4. Have the students survey the chapter for several minutes.

5. Occasionally, the instructor assigns text chapters, but tests only on class notes. It is not a bad study skill for a student to eventually realize this and use the text only as a backup to the notes. Avoid suggesting the text is not important, but gradually de-emphasize it during SI if you find this to be the case.

“I have learned as well as helped students.”

- Erica Sanchez
Chaffey College SI leader
Marking Textbooks

**Finish reading before marking.**
Never mark until you have finished reading a full paragraph or headed section and have paused to think about what you just read. This procedure will keep you from grabbing at everything that looks important at first glance.

**Be extremely selective.**
Don’t underline or jot down so many items that they overload your memory. Be stingy with your markings, but not so brief that you need to read the page again to review.

**Use your own words.**
Since your notes in the margins represent your own thinking, they will later be powerful cues to the ideas on the page.

**Be brief.**
Underline brief but meaningful phrases, rather than complete sentences. They will make a sharper impression on your memory, and will be easier to use when you recite and review.

**Be swift.**
You don’t have all day for marking. Read, go back for a mini-overview, and make your markings. Then attack the next portion of the chapter.

**Be neat.**
Neatness takes conscious effort, not time. Later when you review, the neat marks will encourage you and save time, since the ideas will be easily and clearly perceived.

**Organize facts and ideas under categories.**
Items within categories are far more easily memorized than random facts and ideas.

**Try cross-referencing.**
For example, if you find an idea on page 64 that has a direct bearing on an idea back on page 28, draw a little arrow pointing upward and write “28” by it. Do the same thing on page 28. In this way you’ll tie the two ideas together in your mind and in your review.

**Be systematic.**
There are many ways to mark the text: the use of asterisks, underlining, circling items and the use of top and bottom margins for longer notations. Use the ideas that appeal to you, but use them consistently so you will remember what they mean at review time.
True/False Exam Questions

1. **Remember to read the directions for the exam before you begin and read each question carefully.**
   Remember that if any part of a statement is false, the entire statement is false. Most questions contain a combination of who, what, when, where, or how facts. If any one of those facts are wrong, the entire statement is false.

2. **Determine the number of questions and budget your time.**
   Many times when True/False questions are given there are a large number of questions. If so, answer each question quickly. It may not be worth a lot of time to get one question right if the question is only worth two points on a 100 point test.

3. **Look for qualifiers.**
   Words like *never, all, none, only,* and *always* generally indicate a statement is false. On the other hand, *sometimes, generally, often, frequently* and *mostly* indicate that a statement is true.

4. **Answer the questions you know first.**
   Often answers to questions you don't know are discussed in other questions. Go back to answer the difficult questions later.

5. **When guessing, do not change answers.**
   Research indicates your first answer is usually best. However, don't be afraid to change answers when you have a good reason for doing so.

6. **Answer all questions.**
   Unless points are deducted for incorrect responses, leave enough time to answer all questions. Mark all remaining or unfinished questions true; in a true/false exam a slight majority of the answers are usually true.

7. **"Reason" statements tend to be false.**
   When something is given as the "reason" or "cause" or "because" of something else, the statement will tend to be false.
Multiple Choice Exam Questions

1. **Remember to read the directions for the exam before you begin.**

2. **Attempt to answer the question without looking at the options.**
   If necessary, cover the answers with your hand.

3. **Eliminate the distracters.**
   Analyze the options as true/false questions. In a negatively worded question (as in "which of the following are NOT . . ."), put true or false beside each option, then simply select the false statement.

4. **Never be afraid to use common sense in determining your answer.**
   It is easy to confuse yourself by attempting to recall the "right" answer rather than simply reasoning through the question. Make sure your answer makes sense.

5. **Answer the questions you know first.**
   Often answers to questions you do not know are supplied in other questions. Go back to answer the difficult questions later.

6. **When guessing, do not change answers.**
   Research indicates your first answer is usually best. However, do not be afraid to change answers when you have a good reason for doing so.

7. **When guessing, choose answers that are not the first or last option.**
   Research indicates that the middle option with the most words is usually correct.

8. **Answer all questions.**
   Unless points are deducted for incorrect responses, make sure to answer all questions.

9. **If the first option is a correct one, look at the last option to make sure it is not an "all of the above" option.**
   The same is true for the "none of the above" questions.

10. **If options appear similar, chances are one of them is the correct response.**
    The same is true for quantities that are almost the same.

11. **Allow time at the end to check for carelessness.**
Matching Exam Questions

1. **Remember to read the directions for the exam before you begin.**

2. **Determine the pattern of the matching questions.**
   Take a moment before you begin answering questions to determine exactly what is being matched. Are they people with quotes, words with definitions, or events with descriptions?

3. **Answer the questions you know first.**
   Often answers to questions you don't know are supplied in other questions. Go back to answer the difficult questions later.

4. **Choose the longest column to read first.**
   One column will generally have more reading material than the other. If you begin by reading the column with the greatest amount of reading, matching it to the column with the least amount of reading, you can avoid having to reread the lengthy material each time.

5. **With each answer cross out the items used from both columns.**
   This will help you save time by not rereading the material and help you answer more difficult questions by visually taking you through the process of elimination.

“The toughest part of the class was the students… I tried to think of ways to get them from being negative and start learning the course in a positive manner.”
- Matt Jimenez
  Chaffey College SI leader
Essay Exam Questions

1. **Remember to read the directions for the exam before you begin, and to reread the exam at the end.**

2. **Do not study for total recall of names, dates, facts, and figures as you might for an objective test. Do not merely memorize material.**

3. **Learn main ideas, key terms, steps in an argument, stages in a process.**
   Also memorize verbatim at least some key phrases, definitions, or short passages. These will give an authoritative air to your answer.

4. **Anticipate exam questions.**
   If you have studied both the fall of Greece and the fall of Rome since the last test, you can anticipate a question which asks you to compare and contrast these.

5. **Read through the whole test first.**
   Answers will come to mind immediately for some questions. Jot down key words now while they are fresh in mind, but don’t start writing your answer.

6. **Budget your time.**
   Allow enough time at the end to go back and finish incomplete answers and to proofread your paper. When the time is up for one question, stop writing and begin the next one. Try not to leave any questions completely unanswered.

7. **Answer the questions you know best first.**
   And don’t panic about any you think you do not know. Stay calm.

8. **Take time to structure your answer, even if you are in a hurry.**
   Whenever you can, work from a brief outline jotted down on scratch paper before you begin to write. Select what is clearly relevant; try to avoid a rambling effect.

9. **Come straight to the point in your answer.**
   Make your very first sentence sum up your main point. If you are writing a lengthy answer, summarize the key points you intend to make in the introduction.

10. **Qualify answers when in doubt.**
    It is better to say “Toward the end of the 19th century” than to say in “1884” when you can’t remember whether it’s 1884 or 1894.
Common Words Used in Exams

**Compare**—Examine qualities, or characteristics, in order to determine resemblances.

**Contrast**—Stress dissimilarities, differences, or unlikeness of associated things.

**Criticize**—Express judgment with respect to correctness or merit of the factors.

**Define**—Write concise, clear, authoritative meanings, keeping in mind the class to which the item belongs, and whatever differentiated it from all other classes.

**Discuss**—Examine, analyze carefully, and present considerations pro and con.

**Enumerate**—A list or outline form of reply. Recount, one by one, using concise form.

**Evaluate**—Present a careful appraisal, stressing both advantages and limitations.

**Explain**—Clarify, elucidate, and interpret the material you present.

**Illustrate**—Present a figure, diagram, or concrete example.

**Interpret**—Translate, exemplify, or comment upon the subject, and give your reaction.

**Justify**—Prove your thesis or show grounds for decision.

**Outline**—Give main points and supplementary materials in a systematic manner.

**Prove**—Establish something with certainty by citing evidence or by logical reasoning.

**Relate**—Emphasize connections and associations.

**Review**—Analyze and comment briefly, in organized sequence, upon the major points.

**State**—Express the high points in brief, clear form.

**Summarize**—Give in condensed form the main points or facts.

**Trace**—Give a description of progress, sequence, or development from point of origin.
Short Answer/Fill in the Blank
Exam Questions

1. **Remember to read the directions for the exam before you begin.**

2. **There are few, if any, "tricks" for this type of exam question.**
   Only one of a dozen publications on "test taking skills" surveyed for this topic had a category for short answer/ fill in the blank questions (this entry contained only two paragraphs that were each only two lines long)!

3. **It is best to "over study"?**
   You need to know your subject backwards and forwards; the chances are that you will either know it or you will not. Unlike an essay test you will not have the opportunity to reveal what you do know in place of what you do not know.

4. **Answer the questions you know first.**
   Often answers to questions you do not know are supplied in other questions. Go back to answer the difficult questions later.

5. **When you prepare for the exam, focus on facts and key words.**
   Look over the materials as though you were going to write the exam. Try to predict questions appropriate for this type of exam.
A Dozen Reasons to Review a Returned Test

1. Check the point total to make sure it is right. Look for mistakes in grading.

2. Know what questions you missed and why you missed them. The reason you missed the question is often as important as the correct answer.

3. Study the instructor's comments, especially for essay questions, so that you will know what is expected next time.

4. Look for the kinds of questions the instructor likes to use.

5. See if the questions came from the text or the lecture. Concentrate more on that source for the next exam.

6. Correct and understand what you missed. This is information you need to know. It may appear on a later test or the final.

7. Analyze the type of problems you missed so you can review strategies for that type of question.

8. Review to get an idea of what kind of test the instructor might give next time.

9. Review to put information back into long term memory.

10. You want to ask questions while the test is "fresh."

11. Review how you studied for the exam. Look for better ways.

12. Reviewing gives you a good reason to talk to your professors and let them know you want to improve.
ICE BREAKERS
**Lie Detector**

- At least 3 students sit in circle. The object of the game is to detect lies and get to know everyone. Each person tells two truths and one lie about themselves. Others try to guess which of the three is the lie. Game ends when everyone had a turn.

**Name That Theorist**

- Gather information about wacky experiments by psychology theorists, or other famous people. Gather everyone together into 1 large group. The object of the game is to engage group in an interesting give-and-take intro to the subject. Give students interesting trivia about the different psychology theorists and try to have them guess which theorist is being described. **Modification:** This can be done for any subject, just choose prominent figures. For math, use famous mathematicians, for English use famous authors, for Political Science use the founding fathers, or current political figures. If students don’t guess, tell them the answer and tell the story behind it. Keep in mind, one goal is to make the theorists/popular figures seem more real to the students.

**Repeating and Reciting**

- Going clock-wise, the first person introduces their name along with an item that starts with the same letter (ex: “Jimmy Jello” or “Abby Arizona”). A theme is highly recommended when naming an item (ex: grocery items or location names). The second person introduces his/her name and item and also re-introduces the first person. The third person introduces themselves and their item and then re-introduces the second person, and then the first. Continue until the last person re-introduces everyone. If someone forgets a name, they must go to the end of the circle.

Games prepare students for cooperative group study.
**Skittles or M&M’s**

- Create a list of topics for each color of candy. For example: Red is favorite band, Yellow is most embarrassing moment, Green is secret celebrity crush from middle school (or now), Orange is the superpower would you be if you could choose any. Put the candy in a bowl and have everyone choose one. Everyone must introduce themselves and answer the question from their chosen category. Afterwards everyone can just eat the rest of the candy.

**Three Questions Game**

- Everyone in the group writes down 3 provoking questions they would like to ask others in the group. Not the normal “what’s your name” type questions but something like, "Where is the most interesting place you have ever traveled" or "Name a topic you feel absolutely passionate about". Give them time to mingle, and to ask three different people in the group one of their 3 questions. Get back together and have each person stand and give their name. As they say their name, ask the group to tell what they now about this person.

**The Pocket/Purse/Backpack Game**

- Everyone selects one (optionally two) items from their pocket or purse that has some personal significance to them. They introduce themselves and do a show and tell for the selected item and why it is important to them.

**The Talent Show**

- Everyone selects one talent or special gift that they possess and can demonstrate for the group. They introduce themselves, explain what their special talent is, and then perform their special talent for the group.

**Birthday Game**

- Have the group stand and line up in a straight line. •After they are in line, tell them to re-arrange the line so that they are in line by their birthday. (i.e: January 1 on one end, and December 31 at the other end.) The catch is that they must do all this without talking or writing anything down.
Map Game

• Hang a large map of the world. Give everyone a pushpin. As they enter, they pin the location of their birth on the map.

Paper Airplane Game

• Everyone makes a paper airplane and writes their name, something they like and dislike on it (You may also want to add additional questions). On cue, everyone throws their airplane around the room. If you find an airplane, pick it up and keep throwing it for 1-2 minutes. At the end of that time, everyone must have one paper airplane. This is the person they must find and introduce to the group.

The Artist Game

• Give everyone a piece of paper and a pencil. In 5 minutes they must draw a picture that conveys who they are without writing any words or numbers. At the end of 5 minutes the host collects the pictures. Show the pictures to the group one at a time and have them try to guess who drew it. After this, allow each of the artists to introduce themselves and explain how their work clearly conveys who they are.

Three in Common Game

• Break the group into 3’s. Their objective is for each group to find 3 things they have in common. But not normal things like age, sex or hair color. It must be three uncommon things. After letting the groups converse for 10 - 15 minutes, they (as a group) must tell the rest of the groups the 3 things they have in common.

Dream Vacation Game

• Ask participants to introduce themselves and describe details of the ideal, perfect dream vacation.
Famous People/Cities Game

- As each participant arrives, tape a 3 x 5 index card on their back with the name of a famous person or city. They must circulate in the room and ask questions that can ONLY be answered with a YES or NO to identify clues that will help them find out the name of the person or city on their index card. EXAMPLES: Paris, Madonna, Santa Claus, John Wayne, Casablanca – (THIS COULD ALSO IN A SCIENCE CLASS OR SOCIOLOGY)

Favorite Animal Game

- As the guests arrive, and before you write their names on a name card, ask them to tell you their favorite animal and three adjectives to describe the animal. As they tell you, write the three adjectives on a name tag BEFORE their name (omit the name of the animal). Ask them to mingle with the crowd, sharing why these adjectives best describe their own personality. EXAMPLES: Loyal, cuddly, playful Dan.

Creative Name Tags

- Give everyone 15 minutes to make their own name tag–they can list hobbies, draw a picture, give a self-profile, etc.

Circle of Friends Game

- This is a great greeting and departure for a large group who will be attending a seminar for more than one day together and the chances of meeting everyone in the room is almost impossible. Form two large circles (or simply form two lines side by side), one inside the other and have the people in the inside circle face the people in the outside circle. Ask the circles to take one step in the opposite directions, allowing them to meet each new person as the circle continues to move very slowly. If lines are formed, they simply keep the line moving very slowly, as they introduce themselves.
Marooned Game

- You are marooned on an island. What five (you can use a different number, such as seven, depending upon the size of each team) items would you have brought with you if you knew there was a chance that you might be stranded. Note that they are only allowed five items per team, not per person. You can have them write their items on a flip chart and discuss and defend their choices with the whole group. This activity helps them to learn about other's values and problem solving styles and promotes teamwork.

The Interview Game

- Break the group into two person teams (have them pick a partner that they know the least about). Have them interview each other for about twenty minutes (You can also prepare questions ahead of time or provide general guidelines for the interview). They need to learn about what each other likes about their job, past jobs, family life, hobbies, favorite sport, etc. After the interviews, reassemble the group and have each team introduce their team member to the group. This exercise helps them to learn about each other.

Story Time Game

- The facilitator starts a story by saying a sentence. It then goes in a circle, each person adding a sentence onto the story-after repeating each sentence that's already been added.

Ball Toss Game

- This is a semi-review and wake-up exercise when covering material that requires heavy concentration. Have everyone stand up and form a resemblance of a circle. It does not have to be perfect, but they should all be facing in, looking at each other. Toss a nerf ball or bean bag to a person and have tell what they thought was the most important learning concept was. They then toss the ball to someone and that person explains what they though was the most important concept. Continue the exercise until everyone has caught the ball at least once and explained an important concept of the material just covered.
Positive Reinforcement Cards Game

- Whenever a participant arrives to class on time from breaks, lunch, etc. give them one playing card. You can also hand out cards to people who volunteer for activities, are helpful, answers a difficult question, etc. At the end of the day, play one hand of poker. Give a small prize to the best hand (you can also pick the top two or three hands if you want to give away more prizes). Note: the more cards a person has - the better the chance of winning.

Human Bingo Game

- Before the meeting, make a bingo matrix and at the top of each square put something that someone in the group might have done-for example, voted for Ross Perot, served in the Peace Corps, etc. Everyone gets a copy and is asked to circulate, getting other group members to sign one square that is true of them. The first person to get "bingo" wins the prize (a candy bar or some other small thing).

Out on the Town Game

- Ask everyone to pantomime something they did the night before. Individuals or groups can act out a movie they went to, describe a meal they ate, or recreate a scene witnessed at a bar.

Lucky Penny Game

- Each person takes a penny or other coin out of their pocket and looks at the date. When it's their turn, they tell the year that's on their coin and recall something spectacular that happened that year.

Four Facts Game

- Each person writes down four facts about themselves, one of which is a lie. Each person takes turns reading their list aloud and the rest of the team writes down the one they think is the lie. When all are done reading the lists aloud, the first person reads their list again and identifies the lie. The team sees how well they did.
A to Z Freeze Game

- Ask participants to recite the alphabet in unison. Let them go on for a while until you yell “Stop!” At that point, identify the letter they stopped on and ask everyone to share something they are looking forward to at school that begins with that letter. For example, if the letter is “R,” they might say “ravioli in the dining hall” or “rooming with someone cool.” Once everyone has shared, have them recite the alphabet again. Stop them on a different letter and ask participants to share a personality trait they possess that begins with that letter. If the letter is “D” they might say things like “diligence” or “doofiness.” Come up with different questions to ask for each letter and repeat the process.

Reception Line Game

- Divide everyone into 2 groups. Have them stand facing each other. Each person talks to the person across from them until signaled (flash lights). At signal, person at end of one line moves to other end. Consequently, everyone has a new person to talk to.

Autograph Sheets Game

- Prepare a sheet listing traits or facts about people with a line for them to sign their name next to the trait if it applies to them (i.e.: someone who wears contacts, someone who has been to Europe, etc.). People then mingle around the room with their sheets seeking to find people who are eligible to sign their sheets. A person can only sign once on any sheet. The process may also be reversed by having people seek out the autograph of people to which they think the category applies (i.e. someone who looks like they enjoy the outdoors, someone who is from the east, etc.)

Puzzles Game

- Give participants a blank piece of puzzle (cut up a sheet of index card stock). Each person writes on the piece one skill which they contribute to the group. The puzzle is then assembled to show that everyone contributes to the whole.
**Human Knot Game**

- Divide into groups of 6-10 people. Each group forms a tight circle, standing and facing each other. Everyone extends their hands into the circle and by intermingling their arms, grasps hands with other members of the group. Instruct people to be sure that the two hands they are holding do not belong to the same person. The groups’ goal: untie the knot which results. Member of the group physically climb over/ under/ through each other’s arms to untie the knot of bodies. Note: It’s RARE but it is possible for a knot to be unsolvable or end in two separate circles.

**Find Someone Game**

- Each person writes on a blank index card one to three statements, such as favorite color, interest, hobby, or vacations. Pass out cards so everyone gets someone else’s card. Have that person find the person with their card and introduce themselves.

**Make a Date Game**

- Give each participant a paper plate. Have them draw the face of a clock on their plate with a line next to each number (no digitals!). Then have participants walk around a find a "date" for each hour, writing their name by the hour. The catch is, no one can make a "date" with more than one person per hour. After everyone has made their dates, speed up time and allow 1-3 minutes for each hour. The facilitator then asks a question for discussion on each date. The pairs will have a chance to get to know one another.

**People Knots Game**

- Everyone sits on the floor in a circle with legs extended toward the middle. Each person grabs two others' hands and holds them. The hands cannot be those of either person sitting on your sides and also cannot be the two hands of the same person. Now, everyone stands up and untangles each other into a single circle, without letting go of the hands you have.
Quick Change Artist Game

- Pair off into partners facing each other. Each player is to observe his or her partner's appearance. Then the players turn around back-to-back and make two or more changes in their dress, hair accessories, etc. When they face each other again, each partner must identify the changes made by his or her partner. This game can be repeated several times by changing partners and increasing the number of changes made.

The Quiet Game

- The instructor explains that this exercise will take self control. Members pair back to back. On the count of three, everyone must face their partner, look each other in the eyes, and then try to remain solemn and serious. No speaking! The first to smile or laugh must sit down. All who remain standing then take a new partner and the activity continues until only one person has not smiled or laughed. (Second round of playing can involve two teams competing to outlast each other.) If you get a pair at the end who are both keeping a straight face, the rest of the group can act ask hecklers to disrupt them.

Sunshine Cards Game

- Everyone writes their name in the center of a piece of paper and draws a sun around their name. Pass your paper around to the person on your right. That person will write something positive about you and they do not have to sign their name. Continue to pass your name around until everyone has written something on all the papers.

Finish the Sentence Game

- Write the start of a question on the board (i.e. My Favorite job was..,My Hobby is..) and go around the room with each person finishing the sentence. When the group is finished, post another question and start again.
Examples of Promotions
Attention Math 65A Students

Come join our free SI Sessions at MATH-113:

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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<tbody>
<tr>
<td>Monday</td>
<td>9:00-10:00 AM</td>
</tr>
<tr>
<td>Wednesday</td>
<td>9:00-10:00 AM</td>
</tr>
</tbody>
</table>

Contact: Natalia, SI Leader
nibranlett@gmail.com

He’s counted to infinity.... twice.
He can win a game of connect four in three moves.
He doesn’t wear a watch. He decides what time it is.
He can divide by zero.
He knows the last digit of pi.

Supplemental Instruction

CHEM-10
Group Study Sessions

Monday & Wednesday
@12:30 in WH-161

Professor Muleta
Chaffey College
Fall 2010

SI Leader: Thomas Kinzer
Prof. Yazigi's Math 25
Mon 10:00AM in PS 101
Wed 10:00AM in PS 101

Contact:
Diana.hoo0@live.com

SLOPE
THE MEASUREMENT OR
STEEPNESS OF A LINE

y = mx + b

MATH 425 SI
Succeed In Math with SI

Wednesday
1 pm HS 108

Friday
10am AD 185

Another math tip:
Come to SI.
Everyone is welcome!

Lynn Doyen Lynnrugde@msn.com
Hungry...

Come and taste an SI Session. You might like it. Don’t forget its completely free! :)

Math 410
When: Monday, Wednesday, 1-2pm
Where: VSS—108
Yeah it’s a little far... but come anyway.

...for knowledge?!

Timothy Chihay

Hungry For More Math?!?!? Come Satisfy Your Appetite In SI!!!

Witt’s Math 410
Monday
12:pm-1:pm
AD—185
&
Wednesday
8:50am—9:50am
VSS—204

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Acknowledgements

We would like to thank the following people and institutions for their contributions to this training manual:

Center for Academic Development at the University of Missouri-Kansas City

Chaffey College Faculty, Administration and Staff

Supplemental Instruction Leaders at Chaffey College

Riverside Community College

El Camino Community College