The Leader's Guide
to Supplemental Instruction

THE INTERNATIONAL CENTER FOR
SUPPLEMENTAL
INSTRUCTION

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We humbly express our gratitude to the SI Leaders and Supervisors around the world who have contributed to this manual. *The Leader's Guide to Supplemental Instruction* is a direct result of your willingness to share your experiences and written materials. Thank you for your dedication to improving the learning of college students everywhere.

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Note to the Reader:

The Leader's Guide to Supplemental Instruction is meant to serve as a tool for the SI Leaders on your campus. Our goal is that you will be able to insert your institution's campus-specific information into the electronic copy of this manual, which you are provided as a participant in a training session led by a Certified Trainer from the International Center for Supplemental Instruction at the University of Missouri-Kansas City. Once *The Leader's Guide* has been updated with your institution's information, you will be able to reproduce the personalized version for use on your campus by your SI Leaders. Please be aware that this manual is not intended to be a stand-alone guide to training or supervising SI Leaders. This manual is intended to be paired with training sessions provided by the International Center for Supplemental Instruction or by those trained by the International Center for Supplemental Instruction. For more information on scheduling a training, contact the International Center at the information below. As a participant in the Kansas City SI Supervisor Training workshop, attendees will gain access to SI training materials that are copyrighted by The Curators of the University of Missouri. Participants understand that through their paid registration at the workshop, they have the permission to reproduce these materials for internal use within their organization. Participants understand that they DO NOT have permission to reproduce these materials for use outside of their organization; nor do they have the right to modify or prepare derivative works in the materials. Participants further understand that any reproduction of training processes or materials must be done solely for educational purposes within their organization and must not be utilized for revenue generation or other similar commercial purposes within or outside of the organization. Reproductions must give credit to the International Center for Supplemental Instruction and the Curators of the University of Missouri.

THE INTERNATIONAL CENTER FOR
SUPPLEMENTAL
INSTRUCTION

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Part I: Overview of the SI Program

Part II: Relationships

Part III: Conducting SI Sessions

Part IV: Planning & Strategies

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Part I: Overview of the SI Program

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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 sessions.

2. SI does not identify high-risk students but rather identifies historically difficult classes.

3. Sessions begin the first week of the term.

4. SI sessions normally occur in classrooms near the course classroom instead of in a learning center.

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

6. SI Leaders are key people in the program. They are students who have demonstrated competence in the course and have great facilitation skills.

7. SI sessions are comprised of students of varying abilities, and no effort is made to separate students based on academic ability.

8. Since SI is introduced on the first day of classes and is open to all students in the course, SI is not viewed as remedial.

9. SI Leaders receive ongoing training which covers such topics as how students learn; strategies aimed at strengthening student academic performance; data collection; and session management tips.

10. SI Leaders usually attend all class sessions, take notes, read all assigned material, and conduct three or more 50-minute SI sessions each week. SI sessions integrate how-to-learn with what-to-learn.

11. Students who attend SI sessions discover appropriate application of learning strategies, (e.g. note taking, graphic organization, questioning techniques, vocabulary acquisition, problem solving, and test preparation) as they review difficult course content.

12. 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 vehicles for refining learning skills.

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13. The SI Supervisor is responsible for identifying the targeted courses, gaining faculty support, selecting and training SI Leaders, monitoring the quality of SI sessions, and evaluating the program.

14. The SI Leaders meet as a group bi-weekly throughout the semester with the SI Supervisor for follow-up, problem-solving, further development, and mastery of learning strategies.

15. SI participants earn higher course grades and withdraw less often than non-SI participants. Also, data have demonstrated higher reenrollment and graduation rates for students who regularly participate in SI.

THE INSIDE SCOOP ON *GROUP DISCUSSIONS*

Group discussion is probably the most common activity associated with collaborative learning. As such, we may 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 them. 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?

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TASKS OF THE SI LEADER

Form groups of three and discuss the tasks of the SI Leader. Specifically discuss with your group which of the responsibilities listed below are your favorite and least favorite parts of being an SI Leader.

1. SI Leader Training

- Attend entirety of pre-semester training and training held throughout the semester.
- Meet with SI Supervisor and faculty regularly.
- Prepare a written session plan for each SI session.
- Show session plan to your Supervisor and the instructor for feedback (especially the first few weeks).
- Include the learning objectives, difficult content, and strategies for the learning activities.

2. Attend the Targeted Class

- Introduce yourself to the course instructor before the semester begins.
- Ascertain requirements for the course before the semester begins.
- On the first day of class, introduce SI to the students and administer beginning-of-term survey, or explain how surveying will be conducted.
- Schedule SI sessions according to most popular times on the survey.
- Check with SI Supervisor for room assignments for SI sessions.
- At the second class, announce the SI schedule and room locations.

3. Conduct Sessions

- Plan an introduction to the SI session.
- Hold marathon SI sessions or extra SI sessions when needed.
- Organize the SI session with built-in flexibility for the needs of attendees.
- Utilize Wait Time One, Wait Time Two, Redirecting Questions, and Checking for Understanding consistently to ensure proper facilitation.
- Provide closure (e.g. a quiz, a summary, a suggestion for future study) to check for understanding.

4. Support Faculty

- SI Leaders support the classroom instructor by providing feedback about students' difficulties, content-related issues, etc.
- The SI program is offered only in classes in which the faculty member understands and supports SI.

5. Integrate Content and Learning Strategies

- Redirect discussion to the group. **This is a key facilitation skill.**

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- Provide Wait Time after a question is asked (One) and after an answer is given (Two) to allow students time to process the question and answer. **This is a key facilitation skill.**
- Use the language of the discipline, and have students do the same.
- Integrate how-to-learn with what-to-learn.
- Get students organized and get them started, but don't do the work
- for them.

6. Collect Data for Program Evaluation

- Collect attendance data at **every SI session**, (e.g. student name, course title, date, and time).
- Administer mid/end-of-term questionnaires.
- Work with SI Supervisor as needed to prepare final report.

THE INSIDE SCOOP ON *CLUSTERS*

A *Cluster* is 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 in smaller 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 on 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.

The SI Leader must find a way to involve SI participants with the material in an active way. 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. It helps to assign roles to group members such as discussion leader, scribe, and reporter; rotate these roles frequently.

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HISTORY OF SUPPLEMENTAL INSTRUCTION

Developed by Dr. Deanna Martin in 1973 at the University of Missouri-Kansas City, Supplemental Instruction (SI) is a peer-facilitated academic support program that increases student performance and retention. Ten years prior to the development of SI (1963), The University of Kansas City, a private institution, had joined the public University of Missouri System. In the years that followed, UMKC's enrollment grew, and the new, larger population of UMKC students demonstrated a greater degree of variance in academic preparedness. Retention rates fell, and Dr. Martin, then a graduate student in the UMKC School of Education, was tasked with developing a model of student support that would improve retention rates and academic preparedness of students moving into the workforce and on to post-graduate study.

SI was recognized in 1983 by the U.S. Department of Education's Joint Dissemination Review Panel National Diffusion Network as an "Exemplary Program" and was awarded funding to begin the process of disseminating SI to other higher education institutions around the United States. Funding and status was validated and renewed in 1992 by the same body.

Dissemination of the SI model throughout the United States by Certified SI Trainers continued in the 1990s, and Dr. Martin and her team at the Center for Academic Development at UMKC began disseminating the SI model outside the U.S. SI became known as PASS (Peer Assisted Study Sessions) and PAL (Peer Assisted Learning) as it spread around the world.

In 1999, the International Center for Supplemental Instruction was established at UMKC and the first conference on Supplemental Instruction was held in Kansas City, Missouri. The International Center for Supplemental Instruction, along with National Centers in Sweden, South Africa, Australia, and Canada, serve as hubs for SI training, best practices, and innovation.

Defining SI

In 2018, Certified Trainers from the National Centers and the International Center held their biannual Certified Trainers Meeting and developed a standard definition to answer the question, "What is SI?" The definition is as follows:

> Supplemental Instruction (SI) is a non-remedial approach to learning that supports students toward academic success by integrating "what to learn" with "how to learn." SI consists of regularly scheduled, voluntary, out-of-class group study sessions driven by students' needs. Sessions are facilitated by trained peer leaders who utilize collaborative activities to ensure peer-to-peer interaction in small groups. SI is implemented in high-risk courses in consultation with academic staff and is supported and evaluated by a trained supervisor.

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FREQUENTLY ASKED QUESTIONS ABOUT THE SI PROGRAM

What is SI?

Supplemental Instruction (SI), created at the University of Missouri-Kansas City, is a non-remedial approach to learning that supports students toward academic success by integrating "what to learn" with "how to learn." SI consists of regularly scheduled, out-of-class group study sessions driven by students' needs. Sessions are facilitated by trained peer leaders who utilize collaborative activities to ensure peer-to-peer interaction in small groups. SI is implemented in high-risk courses in consultation with academic staff and is supported and evaluated by a trained supervisor.

What is an SI Leader?

Have you ever wished you could do something over, knowing what you know now? SI Leaders are students themselves and are prepared to share with you what they have learned over the years about how to study. They have taken this course, have done well in the course, and can be a valuable resource to you.

They know the course content and are anxious to help guide you through it. They will be in class with you every day, hearing what you hear, and reading what you read. What they won't do is re-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 review sessions. SI can help you learn difficult course material more efficiently.

When do SI review sessions start?

On the first day of class, you will be surveyed by the SI Leader regarding your class schedule. Each SI Leader will set up two or three review sessions each week at times that are best for the majority of students taking the class. You can attend as many or as few sessions as you'd like; each one will be different because you'll have new material to discuss. SI sessions are informal. Bring your notes; bring your textbook; bring your questions; you may even bring your lunch!

What's in it for me?

If you attend SI sessions regularly, chances are you'll earn a better grade. You also will have developed a better understanding of course content as well as more effective ways of learning. This will help you with other classes you are taking, now and in the future.

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Part II: Relationships

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THE SI LEADER AND THE INSTRUCTOR

Break into groups of five or six. Assign each person in the group one of the situations presented below and ask them to lead the group in a discussion about how they would handle it. Review the "Dos and Don'ts" on the next page for tips.

What would YOU do in these situations?

1. The instructor asks you to do something the SI Supervisor has asked you not to do (example: lecture for him or her during a time he or she will be absent).

2. The instructor offers to show you some of the test items from an upcoming exam.

3. The instructor asks you not to pass out old exams in SI. A student brings one to the SI session.

4. The instructor asks you to help distribute handouts in class.

5. The instructor asks if he or she can visit one of your SI sessions.

6. The instructor wants to know which students have been attending the SI sessions.

7. The instructor asks for feedback about content related difficulties the students are experiencing.

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Do

- Treat the instructor as your ally, never your adversary.

- Meet with the instructor 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.

- Provide the instructor with feedback about how the sessions are going. Although it is not recommended that instructors attend SI sessions, most SI programs will not self-destruct if the instructor elects to visit one or two sessions.

- Be sure to let the students know ahead of time if the instructor opts to attend a session, as having the instructor there will change the dynamics of the session and will compromise the anonymity of the students in the session. It is recommended that instructors attend SI sessions in a different course and discipline. This preserves the anonymity of the session and allows the instructor to focus on process as opposed to content.

- Show the instructor a copy of your plan for your SI session. He or she can help make your plan more appropriate to the course material.

- Ask the instructor for permission to make announcements to the class. Even though your instructor 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.

- Be helpful to the instructor whenever possible. You should not assume the role of being the instructor's assistant, but offer to assist the instructor in tasks such as passing out materials or other similar activities.

Don't

- Criticize the instructor during an SI session. Students will report this to the instructor and it is not helpful. Students are responsible for their academic performance, regardless of the instructor's style.

- Grade papers or tests or be involved in constructing test items.

- Set yourself up as a teacher. Your purpose is to facilitate the learning of the material, not to do or evaluate the teaching.

- Hesitate to refer the instructor to the SI Supervisor if he or she requests anything about which you are uncertain or with which you are uncomfortable.

- Answer questions the instructor poses to the class or involve yourself in class discussions unless the instructor directly invites you to do so.

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THE SI LEADER AND THE STUDENT

Break into groups of five or six. Assign each person in the group one of the situations presented below and ask them to lead the group in a discussion about how they would handle it. Review the "Dos and Don'ts" on the next page for tips.

What would YOU do in these situations?

1. A student asks you for a copy of your lecture notes because "his or her mom is in the hospital."

2. A student asks you for copies of the materials you have prepared for the SI session but says he or she can't stay for the actual SI session.

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

4. The material you have created for the session 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, and I don't need to come to SI anymore."

6. A student confides personal problems. (This could range from registration difficulties to marital problems.)

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

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Do

- Say “yes” to students’ requests whenever it is reasonably possible to do so.
- Remember that the goal of SI is more than simply helping students score well on examinations. Many things can contribute to attrition.
- Recognize the limits of your job description and training. You are a recognized expert on the course, but that’s as far as you have to go. Listen patiently to all other problems and refer the student to those persons who are recognized experts with the problem the student describes. When in doubt, contact your Supervisor immediately if you are concerned about the students’ safety.
- Attempt to treat all students as you would treat a friend.
- Provide straightforward, truthful responses.

Don't

- Allow yourself to be drawn into an argument with students.
- Demand that students have to defend themselves to you; if they miss a session, act concerned, but don’t demand an explanation.
- Say anything that would make you sound like an authority of any kind.
- 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.
- Feel obligated to be available to students 24/7. You are a student first, and your work and well-being must take priority.

THE INSIDE SCOOP ON 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 Supervisor should be consulted to help deal with the problem student. SI Leaders are more effective when they are not perceived as authority figures.

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THE SI LEADER AND THE SUPERVISOR

It is the responsibility of the SI Supervisor to assist you in doing your job as an SI Leader. How might the SI Supervisor assist you with students, instructors, and sessions? Jot down some ideas in the spaces provided, and then pair up with a partner to share your ideas.

My Supervisor can assist me with students when . . .

_____

_____

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My Supervisor can assist me with the instructor when . . .

My Supervisor can assist me in getting things I will need for the sessions such as . . .

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REFERRING STUDENTS

Break into pairs. Looking at the "Guide to Campus Resources," use the "Turn to a Partner" technique and discuss with your partner your recommendations regarding where to refer students who reported the following difficulties:

1. "Someone broke into my car and stole my laptop."
2. "English is my second language and I'm having difficulty following the lectures."
3. "One of my instructors keeps coming on to me."
4. "I would like to get involved in some campus organizations."
5. "My father recently passed away."
6. "I think I have a learning disability."
7. "I would like to find out if there are other students here who are also from my country."

THE INSIDE SCOOP ON *TURN TO A PARTNER*

Working in pairs is a fast and efficient way of getting everyone involved in the discussion. Remember, whoever does most of the talking also does most of the learning. Also, 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 of getting everyone's brain working at the same time.

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GUIDE TO CAMPUS RESOURCES

Include a "Guide to Campus Resources" for your university into your Leader's Guide to Supplemental Instruction.

Sample of the UMKC's "Guide to Campus Resources"

UMKC HelpLine
Phone: 816-235-2222
E-mail: helpline@umkc.edu

Campus Police
4825 Troost Ave.
Suite 214b
Kansas City, MO 64110
Emergency Dial 9-1-1
Phone: 816-235-1515
E-mail: umkcpd@umkc.edu

Counseling Center
4825 Troost Ave
Suite 206
Kansas City, MO 64110
Phone: 816-235-1635 or 816-235-5820
E-mail: chtc@umkc.edu

Student Health and Wellness
4825 Troost
Suite 115
Kansas City, MO 64110
Student Health and Wellness: 816-235-6133
Health Promotion: 816-235-5350
Student Health: studenthealth@umkc.edu
Health Promotion Services: healthpromo@umkc.edu

Office of Services for Students with Disabilities
Office of Students with Disabilities Services
4825 Troost Suite 104
Kansas City, MO 64110-299
Phone: 816-235-5612
E-mail: disability@umkc.edu

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Part III: Conducting SI Sessions

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THE FIRST DAY OF CLASS

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

- Remind the instructor that you will need to make a brief presentation about Supplemental Instruction to the class.
- Write your name, email address, and campus SI office number on the board.
- Distribute the beginning-of-the-term survey to the students.
- Introduce SI to the students.
- Hand out a one-page overview of the SI program that includes some of the material from your oral presentation.
- Arrive early for the class session.

Other:

_____

_____

_____

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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 students might ask or have about the program. Use a conversational style, and let your personality show through.

Possible points to include in your first day speech:

- Sessions are offered weekly
- Students benefit most when they attend at least one session per week
- Content is reviewed in small groups, giving students the opportunity to:
    - Improve understanding of important concepts
    - Compare notes
    - Get to know classmates
    - Develop study and learning strategies
    - Test yourself before your professor does
- Supports historically difficult courses with high DFW rates
- Students who attend SI sessions statistically earn better grades
- The program is non-remedial, so sessions are for everyone no matter your grade
- The program is FREE for students!

Be sure personalize your intro… Get creative! ☺

Notes:

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PREPARING FOR THE SI SESSION

An SI session always starts with an "opener:" an activity that is completed within 5 to 10 minutes and one that helps the SIL assess where the students are with the material that is about to be covered. The opener also creates an expectation of how the session will run and enforces a facilitated group style.

Discuss the following questions:

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 you only have one student show up for a session? No one?

   _____

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ACTIVE LEADING

Description:
Active learning means checking in with students throughout the session as they work on material independently or within pairs/groups to ensure that they are fully understanding the material. The SIL can achieve this by also being actively involved in the session: walking around the room, asking students questions, or sitting down with them and joining the discussion.

Rationale:
Leaders must make sure to have consistent active leading throughout their session in order to cover all the content they had planned for the session, and also to ensure that the students are engaged, thinking and learning, rather than reliant on the SIL for answers.

Active Leading	Passive Leading
• Actively group students by counting students off (1, 2, 3…). • Actively group students by stating the names of students who will be working in a group together. • Actively group students by having the seats put into groups prior to the start of the session. • Have students write solutions on the board. • Sit with the students as they work on the activity. • Ask different students questions throughout the activity while in groups and when working as a whole. • When putting two or more students together to work on an activity, consistently checking that all students are contributing to the group's work. • Circulate to check on students' progress during an activity. • Ask students to work in groups and kindly asking students to move if they do not do so on their own.	• Standing at the front of the room while students work on an activity • Asking students to work in groups but not requiring them to move around • Staying up at the board and writing solutions • Moving from the current activity to a new activity without checking for understanding • Pairing students up but allowing them to work individually • Suggesting an activity but not enforcing the activity to be done or bringing the group together before moving on

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CONDUCTING THE SESSION

Break into small groups. Assign each person in the group one or more of the situations presented below and ask them to lead the group in a discussion about how they would handle it.

What would YOU do in these situations?

1. One person is dominating the conversation of the group.

2. Students are having side conversations.

3. All of the interactions in the SI sessions are between you and the students. There is no student-to-student interaction.

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

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

6. A student becomes confrontational and suggests the sessions are a waste of time.

7. Students who typically do not show up for sessions are being shunned by those who do.

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THE INSIDE SCOOP ON *CONDUCTING SI SESSIONS*

1. Running a successful session requires careful planning. Never go into a group intending to "play it by ear" or "answer questions." Prepare a written session plan to share with your Supervisor and instructor for feedback before the session.

2. Personally invite students to the sessions. Don't act insulted if they offer an excuse for not coming.

3. Maintain eye contact.

4. Build flexibility into the organization of the SI session.

5. Don’t feel tied to keeping up with the content. You don’t have to “do something” with every bit of content provided by the instructor and the text.

6. It is more effective to “model” how successful students learn a particular subject than it is to “tell” students what they need to know.

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

8. Waiting for students to volunteer a well-developed answer takes time. If you are uncomfortable waiting for several seconds, join students in looking through notes or text.

9. If students are unable to answer the question, 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. Avoid taking on the responsibility of providing answers.

10. 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 that will clarify the correct answers.

11. 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.

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

13. 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, reassuring the group that you are still there for them.

14. Be sure your session includes the Elements of SI: Wait Time, Redirecting Questions, and Checking for Understanding. Students will get more from the session, and collaborative learning will happen naturally without as much effort from you.

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CLOSING THE SI SESSION & REVIEWING FOR EXAMS

Having a closing activity at the end of every session is just as, if not more, important than having an opening activity. Similar to openers, closers are also 5 to 10 minutes long. Closers are done, as their name indicates, to close the session. They should be a quick wrap-up of any loose ends of the session and get students back on the same page before they leave. This should be a review, a confidence builder, or a summarizing activity. Think of wrapping a present. A closer puts the bow on the package.

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 SI Leader stop to do "closure?" Why or why not?

3. Many SI Leaders report 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 session 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. If you have a two-hour marathon session before the exam, would you count this as one or two sessions?

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

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THE INSIDE SCOOP ON *CLOSING SI SESSIONS*: CLOSURE TECHNIQUES

To ensure that students do not lose sight of the "big picture," reserve the last few minutes for reviews. During this time, books or notes should not be used. Below are several strategies for closing SI sessions.

Technique One: Informal Quiz

When time permits, the Informal Quiz will help students put all of the important ideas together. We have provided information about the Informal Quiz in the Strategies Section.

Technique Two: Predict Test Questions

Divide students into groups of two or three. Have them 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 Three: 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 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 Four: 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 new material, especially if it can be connected to information they have just mastered in the SI session.

Technique Five: 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 give time for the *process* of learning.

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WAIT-TIME

Definition[1]:
Wait-Time is the time that elapses between an SI Leader-initiated question and the next behavior (student response or the Leader talking again).

There are two kinds of wait-time:

Wait-time 1: The time the Leader waits after asking a question
Wait-time 2: The time the Leader waits after a response is provided, regardless of the accuracy

Rationale:
Wait-Time is an important factor in successful SI sessions. Extensive research has demonstrated that the quality and quantity of students' verbal responses increases significantly if SI Leaders regularly utilize at least 15-20 seconds of wait-time. **Wait-time 2** seems to be even more significant than **Wait-time 1**. So, once again, if SI Leaders resist the natural temptation to jump in too quickly to answer or rephrase, student learning improves. Increased wait-time allows the brain more opportunity to consolidate information, which allows for deeper processing of information. According to de Jong and Ferguson-Hessler[2], deep-level knowledge is associated with comprehension, abstraction, critical judgment, and evaluation. Deep-level knowledge "has been thoroughly processed, structured, and stored in memory in a way that makes it useful for application and task performance."

Research findings[3]:

For Students:

1. More students answer
2. More accurate answers
3. Answers are more elaborate, reasoned, and supported
4. Students listen to each other more
5. More speculative responses
6. More questions asked
7. Increase in use of logical consistency in responses

For SI Leader:

1. Asks fewer questions
2. Connects questions better
3. Asks more higher-order questions
4. Demonstrates greater flexibility
5. Expects more from poorer students

[1] Rowe, M. B. (1974). Wait-Time and rewards as instructional variables, their influence on language, logic, and fate control: Part 1—wait-time. *Journal of Research in Science Teaching, 11*(2), 81-94.
[2] deJong, T. & Ferguson-Hessler, M. G. M. (1996). Types and qualities of knowledge. *Educational Psychologist, 31*(2), 105-113.
[3] School Improvement in Maryland. (2003). What have we learned about good instruction? Retrieved March 11, 2003, from: http://www.mdk12.org/practices/good_instruction/projectbetter/thinkingskills/ts-83-85.html

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WAIT-TIME

When Students Don't Respond:

SI Leaders may worry about what to do if no one responds. After waiting 15-20 seconds with no responses, they may want to try one of the following[1]:

- ♦ Repeat the question
- ♦ Rephrase the question
- ♦ Simplify the question
- ♦ Ask a student to attempt to rephrase the question
- ♦ Break down the question into its component parts
- ♦ Make the question more specific
- ♦ Ask students what it is about the question they do not understand

After each alternative, wait 5-10 seconds.

What can you, as an SI Leader, do if no one answers a question?

_____

_____

_____

_____

How do you respond to students who get frustrated waiting for a response?

_____

_____

_____

_____

[1] Lorsch, N. and Ronkowski, S. (2003). *Teaching tips for TAs: Wait-time*. Retrieved July 23, 2003, from University of California, Santa Barbara website: http://www.id.ucsb.edu:16080/ic/ta/...html
Leader Resource Manual, UMKC pg.87-88

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REDIRECTING QUESTIONS[1]

Description:
The goal of redirecting questions is to encourage more and better student-to-student interactions during the session.

There are three main ways to redirect:

1. Redirect back to the **student**
2. Redirect back to the **group**
3. Redirect to **source material** (textbooks, lecture notes, etc.)

Redirection usually takes place when a student asks a question. Rather than simply answering the question, the SIL will redirect it. The SIL can also redirect students if they cannot answer a question they have posed themselves.

If the question has been redirected multiple times and the students still cannot answer it, the SIL may provide the answer to avoid student frustration and disengagement. However, the SIL should then provide a similar question to encourage students to find the answer independently.

Sample Phrases:
What is this question asking for?
Give an example of that.
Can you think of another way to think about this?
Can you be more specific?
How does your response tie into ____?
Let's look that up in the text/notes.
Let's write down everything we know about this topic/problem/theory.
How can you relate this to everyday life?
Does anyone know the answer to that question?
What do you need to do next?
How did you do that?
What do you mean by . . . ?
Tell us more...
What else did they do?
What do we need to know in order to solve the problem?

[1]Riley, J. P. (1981). The effects of preservice teacher's cognitive questioning level and redirecting on student science achievement. *Journal of Research in Science Teaching*, *18*, 303-309.; Brown, B. E. (1979). *Probing skills for tutors*. Paper presented at the Annual Meeting of the Western College Reading Association, Honolulu, HI. (ERIC Document Reproduction Service No. ED184065)

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REDIRECTING QUESTIONS

Practice Exercise

1. Have each participant write down a question that could be asked in a session for his/her discipline.
2. Make sure that the group is in a circle to avoid this evolving into a mini-lecture.
3. Select one participant to take the role of an SI Leader.
4. Have the participants ask the questions they have written down.
5. Have the Leader redirect the questions to the group. Group members should answer as naturally as possible.
6. After several exchanges, change who is taking the role of the Leader and repeat the process.

How does this process attempt to break the *Dependency Cycle*?

_____

_____

What would you do if the response by the student after the Leader's redirect were "If I knew how to do this problem, I wouldn't have come to SI!"?

_____

_____

Are there some questions that should not be redirected? Give an example.

_____

_____

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DIRECTING DISCUSSION BACK TO THE GROUP

Take turns practicing redirecting the questions below (or make up some of your own) with a partner.

Hint: the phrases in the next column may be helpful.

Questions for person one:

1. Are proteins amino acids?
2. What is meant by the term "dialectical materialism"?
3. When was the Neanderthal period?
4. Where is the headquarters for the United Nations?
5. What are descriptive statistics?

Questions for person two:

1. What is the difference between organic and inorganic matter?
2. Who was William Blake?
3. Can you explain photosynthesis?
4. What is sickle-cell anemia?
5. What is the capital of Germany?

Suggested Phrases for Redirecting Questions

- Does anyone know the answer to that question?
- Can anybody help Mary answer that question?
- Can anyone find the answer to that in your notes?
- Let's look that up in the book.
- 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?
- How did you do that?
- 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 an example of that.
- How is that related to . . . ?
- Can you summarize the discussion up to this point?
- How does your response tie into . . . ?
- If that is true, what would happen if . . .?
- What would _____ say about that?
- Let's see if we can figure out how to answer it together.
- 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 Dr. X next class?"
- What do we need to know in order to solve the problem?
- Which words in the question do you not understand?
- Let's rephrase it on the board and figure out what information we will need to answer it.

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THE INSIDE SCOOP ON *REDIRECTING QUESTIONS*

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 is counter intuitive not to answer a question for 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—set up—organize—manage—prepare

Level Six: Evaluation
judge—appraise—evaluate—rate—compare—value—revise—score—select--choose
assess—estimate—measure

Bloom, B. (1973). Taxonomy of Educational Objectives

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CHECKING FOR UNDERSTANDING

Definition:
The learning strategies that SI Leaders use in their sessions are designed to promote student-to-student interactions. We cannot automatically assume, however, that the students are gaining understanding from their interactions. Instead, we must check for understanding by asking the students to confirm that they have learned the content.

Rationale:
The most common method of checking understanding is to ask the students a closed-ended question like, "Do you understand?" This question can be answered with a simple yes or no. This is not effective because students are sometimes uncomfortable admitting that they still do not understand a concept, especially if considerable time has just been spent on it during the session. Instead, questions that check for understanding should be open-ended and require higher-order thinking skills.

It is essential that students can explain the discussed topic in their own words so the Leader knows that students understand before proceeding to the next topic. If there is any doubt that the students did not "get" it, the concept should be discussed again. The Leader should make sure that the students get a chance to demonstrate their understanding so that demonstrating understanding becomes part of the SI sessions. This will improve student preparation and learning.

Possible Ways to Check for Understanding:

1. Always maintain eye contact with the students during the session. By making eye contact, you will likely see when a student is confused.
2. Ask a student to summarize the concept just covered. If s/he struggles, ask the group to help him/her.
3. Ask for a volunteer to write the main points of the discussion on the board.
4. Ask a question that requires the student to understand in order to answer correctly. For example, if you just covered the difference between the logical rules of inference, disjunctive syllogism and modus ponens, ask the group, "So I can use Disjunctive Syllogism on this argument, right?" when you cannot, based on the discussion. When they reply, "No, of course not," ask them *why not*.
5. Once in a while, intentionally make mistakes on the board. The students will catch you if they understand. If no one notices, probe the group about the content on the board until they discover the mistake. (Frequent use of this strategy may confuse students.)
6. Ask the students to rephrase the question you asked originally or the summary another student gave.
7. Ask for real-life examples or applications of the concept.
8. Ask for a similar problem, metaphor, or analogy.

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SI MARKETING STRATEGIES

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

1. Report SI vs. non-SI test differences to the class, such as test score averages, amount of difference in scores, and DFW and AB rates. Your SI Supervisor can provide you this information.

2. Report test scores from previous academic terms. Use national data until you develop your own history of institutional data.

3. Distribute reminder handouts to attend SI sessions throughout the term.

4. Develop sample tests in SI sessions with the students.

5. Provide skeletal handouts—empty outline, matrix, chart, etc.—that students can fill out in a session; students will appreciate having something tangible to take with them. These can be especially helpful for problem-solving courses. Have students put these on the board and explain them.

6. Post anonymous quotations from students on how SI has helped/is helping. Include some of these with the SI email on the first day of class.

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

8. Allow for discussions between the class and the SI Supervisor if SI attendance is low.

9. Offer regular reminders from SI Leaders in class on attending SI.

10. Offer something specific in SI sessions—a study skill, rules for problem-solving, jeopardy, games, text review, etc.

11. Change SI times to accommodate the greatest number of students. Resurvey the class if necessary.

12. Offer "how to" handouts on the most efficient/effective study skills.

13. Tell student lab instructors about SI and ask for their support.

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

15. Post updates, session times, and session topics on social media.

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16. Create an awareness video (5 minutes) that explains and promotes SI. Show it on the first day of class.

17. Be sure to promote the SI program through academic advisors, new student orientation programs, and other means before the academic term begins.

18. Place an ad in the student newspaper that lists all courses to which SI is/will be attached. Remember to include a short description of SI.

19. Place an advertisement or announcement in the campus course booklet or electronic timetable that identifies all courses to which SI will be attached. Again, remember to include a short description of SI.

20. Post flyers and/or electronic signage on campus bulletin boards or televisions.

What other SI Attendance Strategies would you add?

_____

_____

_____

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Part IV: Planning & Strategies

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SUPPLEMENTAL INSTRUCTION SIGN-IN SHEET

SI Leader:_____Course:_____

Date: _____ Day: □Mon □Tue □Wed □Thu □Fri □Sat □Sun

Time Session Began: _____ Time Session Ended: _____

Is this the final session before an exam? □yes □no If yes, exam # _____

Please Print Clearly

1. _____ 14. _____

2. _____ 15. _____

3. _____ 16. _____

4. _____ 17. _____

5. _____ 18. _____

6. _____ 19. _____

7. _____ 20. _____

8. _____ 21. _____

9. _____ 22. _____

10. _____ 23. _____

11. _____ 24. _____

12. _____ 25. _____

13. _____ 26. _____

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SI SESSION PLANNING FORM

SI Leader:
Session Date & Day of Week:
Course:
Course Instructor:

	Content to cover:	**Collaborative Learning Technique**	**Strategy to be used:**
Warm-up/ Opening: **(2-4 min.)**			

Please provide a **DETAILED BREAKDOWN** of warm-up activity **OR** attach corresponding document(s)

	Content to cover:	**Collaborative Learning Technique**	**Strategy to be used:**
Cool-down/ Closing: **(2-4 min.)**			

Please provide a **DETAILED BREAKDOWN** of cool-down activity **OR** attach corresponding document(s)

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SI SESSION PLANNING FORM (CONT.)

Workout: **(44-46 min.)**	**Content to cover:**	**Collaborative Learning Technique(s)**	**Strategy(ies) to be used:**

Please provide a **DETAILED BREAKDOWN** of workout activity **OR** attach corresponding document(s)

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GUIDING QUESTIONS FOR PLANNING

Offer these questions to SI Leaders to guide them in planning for their SI session.

1. **What is the most difficult content?** (Remember, important is not the same as difficult. There will always be important concepts that you will not have time to address in the sessions. If you try to cover everything, you will create students dependent on you for their knowledge. Instead, we would like to create independent students who can take the study skills they learned in SI and apply them to their future courses.)

2. **What collaborative learning techniques AND learning strategies will work well with these concepts?** (i.e. think-pair-share, group discussion, turn to a partner, AND Note review, informal quiz, divide and conquer, think-pair-share, boardwork model, matrix etc) How much time do you expect to spend on each activity?

3. **How many students do you expect?** What will you need to adjust in the strategies you've chosen depending on how many students actually attend? How can you be ready for students who are not prepared? (no book, no notes, haven't read book etc) Make those plans now.

4. **What do you need to prepare to make these strategies successful?** (ie. Review your own lecture notes for a note review; write an informal quiz; divide a reading assignment for divide and conquer; select problems representative of important types to use for think pair share or boardwork model; form your own complete matrix etc.) NOTE: SI Leaders should submit these materials when they submit their planning sheet as part of their completed plan.

5. Write a summary of these plans on the Planning the SI Session sheet.

6. What would you like to remind the students to study on their own?

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PLANNING TIPS

Opening the Session Tips:

Opening a session may just seem like a formality, but it can really set the tone for the session. Good openers should be short (no more than 7 minutes) but still allow the SI leader to prep the students for more difficult session material to come or gauge the students' understanding of previous material. Try varying the goal of openers until you find what you like best! Some strategies that generally work well for openers include one-minute papers, KWL, informal quiz, incomplete outline, brain dump, challenge yourself, and note review. Almost any strategy can be utilized, but some larger content categorization strategies may need to be modified for the shorter time span.

Closing the Session Tips:

Closing a session is just as important, if not more so, than any of the other activities in the session. Even if the session has run too long, it is crucial to ask a quick question to tie everything together. In general, good closers should be short (5 minutes or less) and allow the leader to do a final check for student understanding. This is a great time to make sure the content covered in session is now clear to students or ask them what they are still struggling with so future sessions can be planned for maximal student benefit. Some strategies that generally work well for closers include one-minute papers, summarize the session, informal quiz, challenge yourself, group survey, and brain dump. Again, almost any strategy can be utilized if modified properly.

Tips for Effective Use of Planning Time:

Many new leaders struggle with how to best utilize their planning time. Many times, in order to plan a quality session, leaders spend more than the paid planning time, but this is not always necessary! During lecture, while you are taking notes, begin to think about what material you may want to present in your sessions and what activities would be a good way to present that material. Then, when you return to the lecture notes while planning the session, you already have a "skeleton plan" and it will not take as long to elaborate and make a thorough session plan. If no students are present, use this time to think ahead to what sessions you have coming up and what material you might want to cover.

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Tips for Planning for First Session(s):

Typically, first sessions do not need to cover much material. Many of them may occur before the class has even started! Regardless, you should still advertise these sessions, as people will want to get into a regular schedule of attending SI. A few good activities to do in first sessions include a get-to-know-you activity, to foster a comfortable learning environment for the semester; a syllabus review, so students are aware of what is expected of them; a survey of what the students are most anxious about in the course, so you can calm their fears and get an idea of what to focus on throughout the semester; and a review of prerequisite knowledge, so the students realize what they might want to brush up on to have a successful semester. If there is material to cover, feel free to jump right in!

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EXAM REVIEW SESSION TIPS

Extended Session Planning Tips:

Many SI Leaders find it beneficial to offer an extended SI session leading up to an exam. The approach to planning these sessions can be challenging since the attendance of these sessions is typically significantly increased from regular sessions and there is a lot of information to get through. When approaching the extended session planning, it is helpful to go back to lecture notes or previous sessions and make a list of all the key concepts. Some people like to reuse all their previous session activities, but it is usually better to come up with new ways to present the material (especially because you have so much material to get through in a relatively short amount of time). Only focus on the critical tested information! Collaboration techniques may also need to be modified, depending on the session size. Generally, it works well to give the students an activity or page of activities and have them work in partners or clusters as you actively circulate through all groups. Make sure that you always bring the group back together and discuss the answers together so everyone leaves with the correct information.

Students at extendeds more than any other session are prone to not working until you provide the answers, so be firm in reminding them that actually participating will help them more than passively copying or taking a photo of the answers. At the end of the session, many people will also ask to take photos of your packet (if you put one together). It is best to either have them write it down from your answers or have them ask another student in the session. This is up to your discretion, but know that you will be establishing precedent for future sessoins. Try not to get too stressed while executing your extended, as your students will appreciate whatever you put together for them.

Post Exam Session Planning Tips:

Usually attendance directly after an exam is reduced, especially if no new lecture material has been covered. Post-exam surveys are a great strategy to use in these sessions, as it allows the students to introspectively evaluate their performance and decide what they would like to change for the next exam. This is also a great time to ask your students what they liked/would like to change about your SI sessions. Sometimes a specific strategy was especially helpful, so hearing this information allows you to incorporate it more frequently into future sessions. Regardless of whether the professor releases the exam questions, you can usually have the students work together through questions they found most difficult. With time, you will find what works best for your course, and then you can generally run all of these after-exam sessions in the same way.

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PLANNING FOR FLEXIBILITY

One of the most difficult parts of being an SI leader occurs when one has a great plan, but something occurs in session that makes it unfeasible to execute as designed. Flexibility is key! There will be times when you expect 2 students to show up, and 30 do instead (or vice versa). This may cause you to need to adjust your collaboration techniques – so always have one in reserve to use in these situations (i.e. think pair share for a small group and divide and conquer for a large group).

Similarly, sometimes the students who show up to your sessions may not understand the prerequisite knowledge necessary for the activities you had planned to do. In this situation, try pulling out an activity from a previous session where you did cover the prerequisite material, and see if after doing that activity, you can continue with your plan. Another option is to execute the note taking strategy and have the students group up and break down the information they have written down from lecture.

Most commonly, activities will take way more or way less time than anticipated. Timing is one of the most difficult parts of planning and executing sessions, especially when students show up who are very advanced or very behind. The most important thing to remember is that sessions are supposed to be run in a way that is effective for the students who took time to show up. Thus, if they are very confused, you should spend extra time making sure they understand the information. This may mean you have to modify future activities to take less time (by removing information or reducing the initial work time) or save them for a future session. Again, having an effective session is more important than getting through all the activities, BUT make sure you are still doing a closer! Even if you don't get to do your planned closing activity, come up with a quick summation question that you can ask them even as they are walking out the door.

Effective session flexibility is something acquired over time, so do not be discouraged if it is difficult during your first few sessions. One way to make this easier is by incorporating some flexibility into your written plan. For example, you can write out how you might change an activity if there are fewer students, students are confused or if you are running out of time. It is also helpful to think through a few quick checking for understanding questions that you can sprinkle throughout the session or save for a quick closer. One way to help yourself remember these questions is to write them down as you are planning your session to ensure you don't forget the question, or more importantly the solution. Again, this becomes easier with time!

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SAMPLE SESSION PLAN

SI Session Planning Form

SI Leader: Ashley Barb
Session Date & Day of Week: Monday, 8/22 at 11:30am
Course: Accounting 310
Course Instructor: Julie Kline

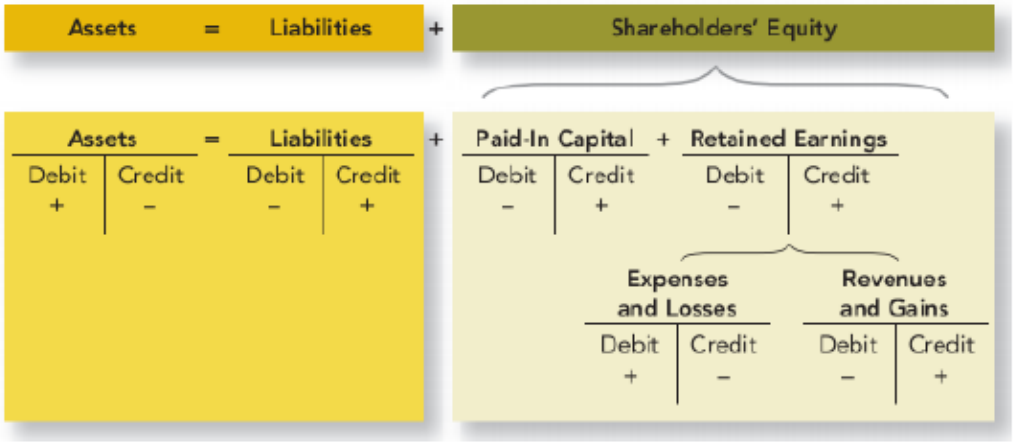
	Content to cover:	Collaborative Learning Technique	Strategy to be used:
Warm-up/ Opening: (5-7 min.)	Accounting equation	Group discussion	Concept mapping

Please provide a DETAILED BREAKDOWN of warm-up activity OR attach corresponding document(s)

For this first activity I will have the entire group have a discussion about the main accounting equation, how it balances, and how debits and credits apply to each increase or decrease in assets/liabilities/equity. I will use the concept map below to illustrate how debits and credits are dispersed within each subgroup.

What is the main accounting equation?

Assets = Liabilities + Stockholders' Equity



What does the term FS means?

Records that outline the financial activities of a business, an individual or any other entity. Financial statements are meant to present the financial information of the entity in question as clearly and concisely as possible for both the entity and for readers.

What does GAAP mean? Outline on the board

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SI Session Planning Form

GAAP – generally accepted accounting principles. Basically a guide to managers on how to prepare FS. Internal auditor must assure that the FS are based according to GAAP.

What does GAS means? Not covered in the course, but good to know

GAS – governmental accounting standards. The standards that external auditors must follow. Established standards of accounting and financial reporting.

Cool-down/ Closing: **(2-5 min.)**	**Content to cover:**	**Collaborative Learning Technique**	**Strategy to be used:**
	What to expect out of the class, what they expect from me	Group survey	K-W-L

Please provide a **DETAILED BREAKDOWN** of cool-down activity **OR** attach corresponding document(s)

Have the students pull out a piece of paper and write down something they know about accounting, something they want to know, and something they learned from the SI or want to learn this semester.

Also encourage them to write down any suggestions of what they'd like to see in SI sessions, whether it be activity ideas, concept ideas, or criticism for me.

Workout: **(60 min.)**	**Content to cover:**	**Collaborative Learning Technique(s)**	**Strategy(ies) to be used:**

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SI Session Planning Form

	Accounts associated with assets, liabilities, equity	Think-pair-share	Divide and conquer
	The four different accounting statements	cluster	Think aloud
	Class in general, syllabus	Group discussion	Survey/questions/answers

Please provide a DETAILED BREAKDOWN of workout activity OR attach corresponding document(s)

For this activity, I am going to have students get into partners and each individually write down as many accounts under either ASSETS, LIABILITIES, or EQUITY (as assigned by me) as they can think of before collaborating with their partners. Then I will have each partner group come up to the board and write their answers under their respective Balance sheet section, and then as a classroom we can all affirm and talk about them.

Assets

- **Cash**
- **Receivables**
- **Inventories**
- **Investments**
- **Supplies**
- **Prepaid expenses**
- **Buildings/equipment**
- **Land**
- **Natural resources**
- **Intangible assets (patents, goodwill)**
- **Accumulated depreciation**

***talk about the difference between current and noncurrent assets and liabilities

***Equity is pulled from the statement of retained earnings for that period

Liabilities

- **Accounts payable**
- **Wages/salaries payable**
- **Taxes payable**
- **Dividends payable**
- **Interest payable**
- **Unearned revenues**
- **Short term notes payable**
- **Pension benefit obligations**
- **Long term obligations**

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Equity

- **Common stock**
- **Additional paid-in capital**
- **Retained earnings**
- **Accumulated other comprehensive income**

Have the students stay in one big group or break down into smaller groups if there are enough people, and discuss the four different accounting statements. Have them hit points such as the order they should be prepared in, components of each one, point in time or period of time, and how they all connect to each other.

1. **Income statement**
   - I. *These are the revenues and expenses (reports net income or net loss)*
   - II. *Covers a PERIOD of time*
   - III. *Revenues can include sales of products and fees from services provided*
   - IV. *Expenses are outflows or money expensed for operations, or a decrease in assets*
   - V. *Gains and losses*

   Sales
   COGS
   Gross profit
   Selling exp
   General and Administrative exp
   Other exp
   Income before tax
   Income tax expense
   Net income

2. **Statement of retained earnings**
   - I. *Net income less dividends equals retained earnings (more or less)*
   - II. *Covers a PERIOD of time*
   - III. *Must be prepared before the balance sheet because the retained earnings are reported in the shareholders' equity section of the balance sheet*

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IV. *Net accumulated losses are indicated by a negative retained earnings amount*

3. **Balance sheet**
   I. *This includes the Assets, Liabilities, and Equity as discussed in the warm up exercise*
   II. *Covers a POINT in time*
   III. *Usually prepared annually, but it can always give you a glimpse of how a company is doing financially at any set point in time*
   IV. *Distinguish between current and noncurrent assets/liabilities*

Current Assets:
- **Cash & equivalents**
- **Marketable securities**
- **AR**
- **Inventory**
- **Prepaid Expenses**

L-t assets
- **L-t investments**
- **Fixed assets**
- **Intangible assets**

Liabilities

Current liabilities
- **Current portion of l-t debt**
- **Interest payable**
- **Bank indebtedness**
- **Rent, tax, utilities**
- **Wages payable**
- **Customer prepayments**
- **Dividend payable**

SE
- **Retained earnings**
- **Stock: common, preferred, treasury**
- **Additional paid-in capital**

4. **Statement of cash flows**
   I. *There are three subsections, Operating, Investing, and Financing cash flows*

CF from Operations
- **Net earnings**
- **Depreciation**
- **Decrease in AR**
- **Increase in AP**

CF from Investing
- **Equipment**

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CF from Financing
Notes payable
Change in cash
Beginning cash
Ending cash

II. *Covers a PERIOD of time*

5. **There is also the statement of comprehensive income and statement of related disclosures**

For the third activity, I'm going to open up to a group discussion and talk a bit about my experience with the class, the demands of the class, study tips, and the syllabus. For example, I found that keeping up with the excel files and always doing a couple from the past each week as a refresher helped tremendously when trying to remember everything for the tests. The flipped classroom model helped me a lot as well, and encourage students to keep up with the online lectures BEFORE the sequential class period.

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SAMPLE SESSION PLAN

Kelsey Guinn | Friday, January 26, 2018 | Biology 108 | Dr. James Benevides

	Content to cover:	Collaborative Learning Technique	Strategy to be used:
Warm-up/ Opening: **(5 min.)**	Functional groups	Think/pair/share	Matching

Please provide a **DETAILED BREAKDOWN** of warm-up activity **OR** attach corresponding document(s)

I will list the names of the seven functional groups on the board, as well as draw out the diagram of the functional groups. The names and diagrams will not be across from each other – they will be scrambled up. Students will be asked to draw lines to connect the name of the functional group to its diagram. I will then ask students to go up to the board to match them.

Hydroxyl: -OH **Sulfhydryl:** -SH

Carbonyl: C=O **Methyl:** CH_3

Carboxyl: OH-C=O **Phosphate:** PO_4^{2-}

Amino: H-N-H

Follow Up: Where might we see a hydroxyl group in a cell? In the glycerol for the backbone of a phospholipid.

Cool-down/ Closing: **(5 min.)**	Content to cover:	Collaborative Learning Technique	Strategy to be used:
	Session Review	Independent Assessment	KWL

Please provide a **DETAILED BREAKDOWN** of cool-down activity **OR** attach corresponding document(s)

Students will be instructed to take 2 minutes to write down the following:

- 1 thing they knew coming into the session
- 1 thing they still don't understand, but want to learn
- 1 thing they learned in the session

We will then come back together as a group and I will call on 3-4 people to share one of their "things."

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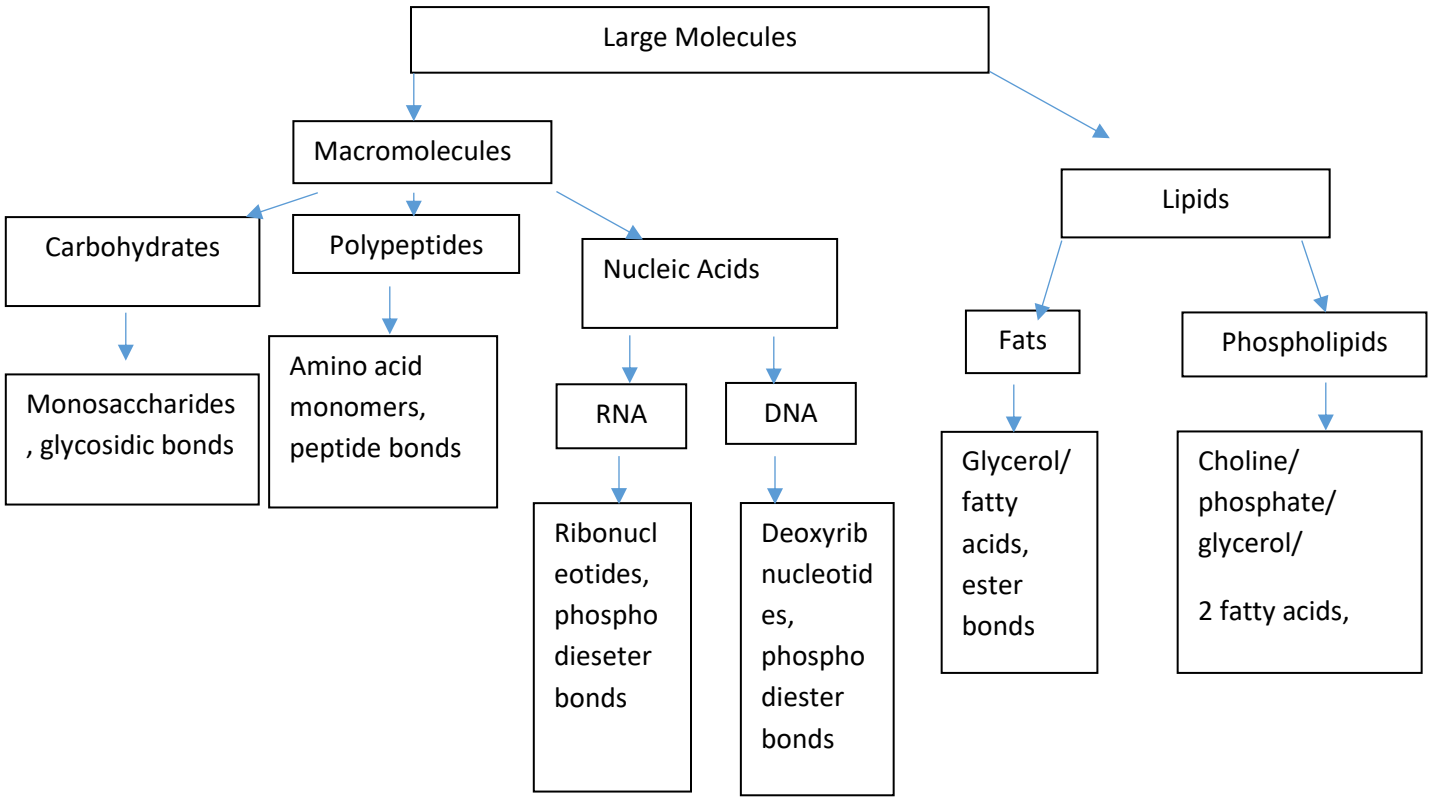
Workout: **(44-46 min.)**	**Content to cover:**	**Collaborative Learning Technique(s)**	**Strategy(ies) to be used:**
	Macromolecules and lipids	Clusters	Hierarchy
	Dehydration and hydrolysis reactions	Divide and Conquer with Partners	Label the diagram
	Amino acid R groups	Partners	"Informal quiz"

Please provide a **DETAILED BREAKDOWN** of workout activity **OR** attach corresponding document(s)

Hierarchy: I will divide the students into groups of five (depending on session size). I will have the hierarchy below on the board, and students will be asked to work within their groups to fill in the blanks of the hierarchy. I will pass markers out to random students and ask them to fill in something on the hierarchy. Students will be asked to write the type of monomer and type of bond that build up macromolecules. And they will be asked to provide the bond and the components of the two types of lipids **(15 Min).**



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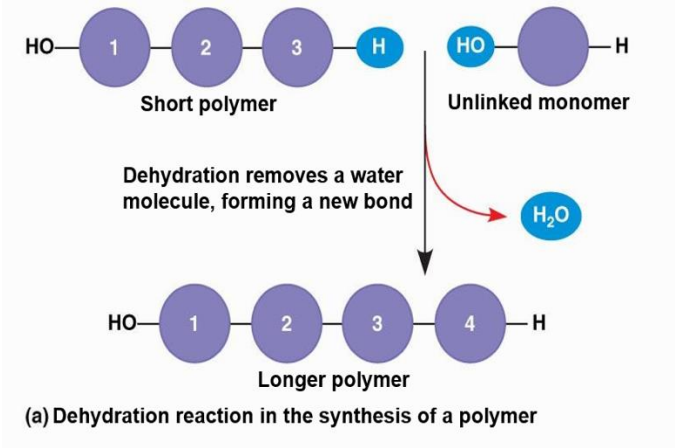
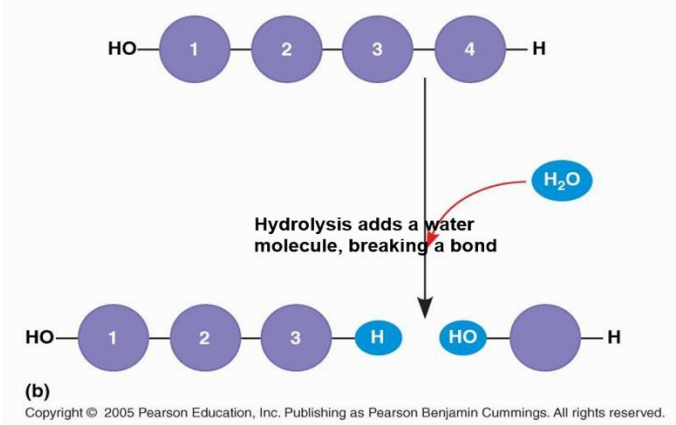
Label the diagram: I will divide the session in half. One half of the students in session will be working on the dehydration reaction, and the other half will be working on the hydrolysis reaction. Within those halves, students will be asked to work in a partner. I will draw both reactions on the board, and students will have to label the diagram. Students will be asked to fill in parts of the diagram. I will then ask some questions about the reactions to check for understanding **(15 Min).**



(a) Dehydration reaction in the synthesis of a polymer



(b)
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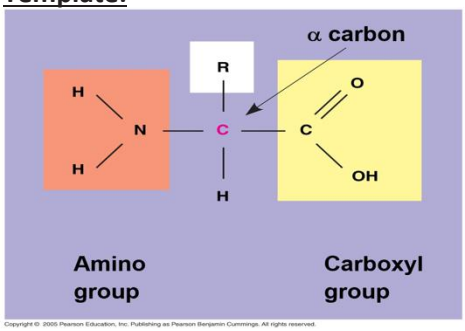
Hydrolysis of a polymer

<u>Checking for Understanding:</u> Which reaction would be used if you wanted to increase the size of a polymer? Dehydration

"Informal Quiz": I will assign partners for this activity. They will be asked to draw the template for an amino acid (shown below). I will also project three amino acids on the board. Students will be asked to determine which amino acid is polar, which amino acid is nonpolar, and which amino acid is acidic **(10 Min).**

<u>Template:</u>



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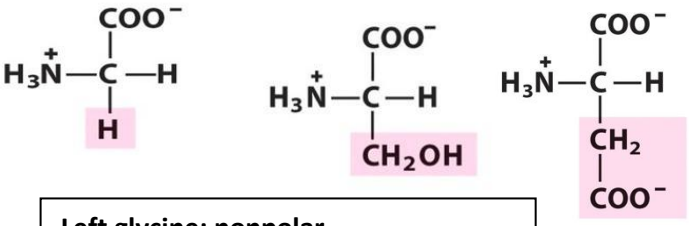
<u>Amino Acids:</u>



Left glycine: nonpolar

Middle serine: polar

Right aspartic acid: acidic

SAMPLE SESSION PLAN

SI Leader: Anna Dean

Session Date & Day of Week: 4/24 Tues

Course: HLSC 160

	Content to cover:	Collaborative Learning Technique	Strategy to be used:
Warm-up/ Opening: **(2-4 min.)**	Unit 4 Review	Individual Assessment	Sample Test Questions

Please provide a **DETAILED BREAKDOWN** of warm-up activity **OR** attach corresponding document(s)

(4 min)

The last exam is next week! I will project a few sample test questions from the previous units to keep the other topics fresh in their mind and start them thinking in test question format. The students will attempt the questions on their own, then we will discuss as a group.

Key:

Which of the following sections of the nephron are ALWAYS permeable to water?

i) Proximal Convoluted Tubule

ii) Descending Loop of Henle

iii) Ascending Loop of Henle **never, only permeable to solutes

iv) Distal Convoluted Tubule

v) Collecting Duct **only with ADH

a) i, ii, iii, iv, and v

b) ii and v

c) i, ii, iv, and v

d) i, ii, and iv

The ACTIVE pumping of which solute ion begins the process of reabsorption in the kidney tubules?

a) Cl^-

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b) Na^+

c) K^+

d) HCO_3^-

Fill in the blank: As blood Na^+ levels _____, K^+ levels _____.

a) Rise, rise

b) Fall, fall

c) Rise, fall **Because of? Na^+/K^+ pump. Low blood K^+ is called? Hypokalemia

d) Rise, stay the same

Cool-down/ Closing: **(2-4 min.)**	**Content to cover:**	**Collaborative Learning Technique**	**Strategy to be used:**
	Female reproductive	Individual assessment	One minute paper

Please provide a **DETAILED BREAKDOWN** of cool-down activity **OR** attach corresponding document(s)

(3 min)

We just scratched the surface of female reproductive in our session today, but our lecture just before it went into great detail. I will have the students jot down anything that sticks in their mind – from little details/bullet points to big ideas – in order to keep them refreshed before Thursday's session! I will ask for a couple volunteers to share a bullet point.

Sample bullet points:

- Estrogen builds up endometrial lining, progesterone maintains it
- Mother and fetus do NOT share blood
- Hormonal contraceptives can prevent ovulation or thicken mucus plug/thin endometrial lining

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Workout: **(44-46 min.)**	**Content to cover:**	**Collaborative Learning Technique(s)**	**Strategy(ies) to be used:**
	Male reproductive structures	Turn to a partner	What happens where?
	Hormonal regulation of reproduction – male	Group discussion	Timeline/flowchart
	Male vs. female reproductive system	Divide and conquer	Venn diagram

Please provide a **DETAILED BREAKDOWN** of workout activity **OR** attach corresponding document(s)

What happens where? For male reproductive structures (12 – 15 min) – slide 28-7

I will have three categories written on the board and index cards with the structures/locations in which they take place. I will pair up the students and they will work together to move the structures into the correct category. I will have lots of follow up questions and appoint a scribe to write the extra info under the cards.

Key:

Sperm Produced in:

Testes

- When does production start? Puberty. End? Continues throughout life
- What is the specific structure of the testes where sperm is produced? Seminiferous tubules
- Specific structure of the testes where sperm matures? Epididymis

Semen to carry sperm produced in:

Seminal vesicle, bulbourethral gland, prostate gland

- Order from most volume of semen produced to least? Seminal vesicle, prostate, bulbourethral
- What are some of the components introduced by each?
    - Seminal vesicles (60%) – fructose, vitamin C, prostaglandins, clotting agents
    - Prostate gland (30%)– buffers (bases), citric acid, proteolytic enzymes
    - Bulbourethral gland (5%) – mucus, buffers (high pH)

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Sperm and semen carried by:

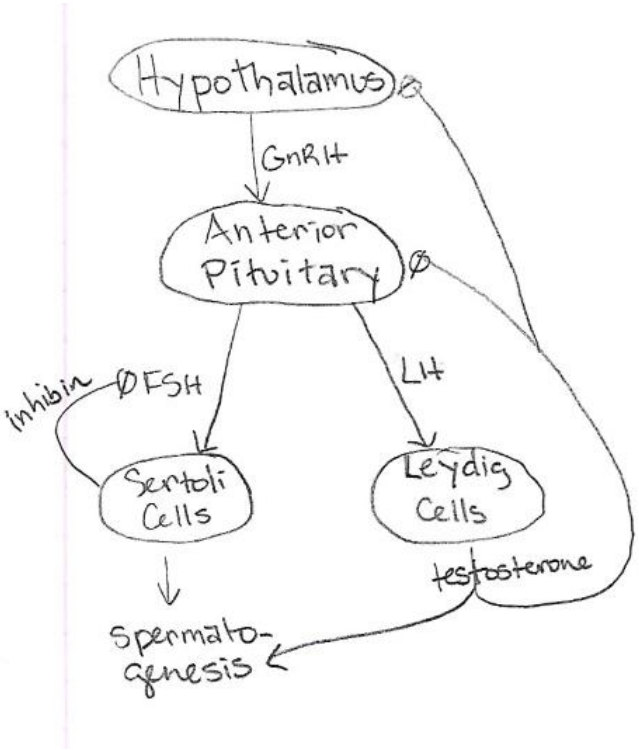
Vas deferens, urethra

- Which column of erectile tissue in the penis (there are three) does the urethra pass through? Corpus spongiosum. And what are the other two called? Corpora cavernosum

Timeline/flowchart for hormonal regulation of male reproductive system (12 – 15 min) – slide 28-10

I will ask the students to create a flowchart for the hormonal regulation of reproduction in males. We have done several of these for other processes, so they should be experts! I will draw the start to the diagram and ask a student to scribe and have the others direct them.

Key:



** What do we call the interaction between testosterone and the hypothalamus and anterior pituitary's secretions? Negative feedback

** Why do you think negative feedback is needed here? Avoid flooding the system with testosterone, keep balanced levels

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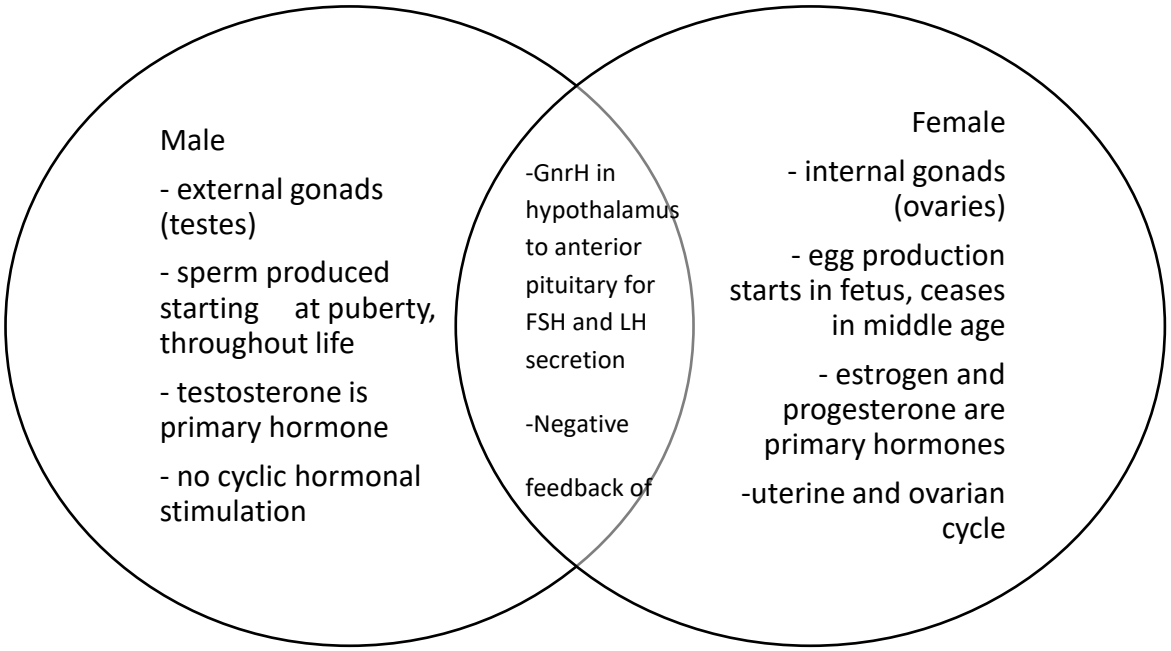
Venn diagram for male vs. female reproduction (10 – 12 min)

I will split the students into 2 groups and have one come up with points of contrast for the male reproductive system, and one come up with points of contrast for the female reproductive system. Each group will fill in their findings and we will discuss as a group.



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SAMPLE SESSION PLAN

SI Leader: Stefani Lowe

Session Date & Day of Week: Wednesday 4/11/18

Course: Psych 418

	Content to cover:	Collaborative Learning Technique	Strategy to be used:
Warm-up/ Opening: **(2-4 min.)**	Dorsal and Ventral Visual Pathways	Clusters	T chart

Warm up: Students will be grouped into clusters and fill out a quick T chart on the board. We will then discuss what was written on the board, making sure we didn't miss anything.

– **Dorsal Visual Stream**	– **Ventral Visual Stream**
– Pathway that originates in the occipital cortex and projects to the parietal cortex	– Pathway that originates in the occipital cortex and projects to the temporal cortex
– The how pathway (how action is to be guided toward objects)	– The what pathway (identifies an object)

Check for understanding: What would happen if there was damage to the ventral pathway?

Visual-form agnosia

- Inability to recognize objects or drawings of objects

Color agnosia (achromatopsia)

- Inability to recognize colors

Face agnosia (prosopagnosia)

- Inability to recognize faces

What would happen if there was damage to the dorsal pathway?

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Optic ataxia

- Deficit in the visual control of reaching and other movements
- Damage to parietal cortex
- Retention of ability to recognize objects normally

Cool-down/ Closing: **(2-4 min.)**	**Content to cover:**	**Collaborative Learning Technique**	**Strategy to be used:**
	Music Processing	Individual	1 minute paper

Cool Down: Students will be given 1 minute to write everything they can remember about music processing in the brain and music therapy. After one minute everyone will share what they wrote.

Workout: **(44-46 min.)**	**Content to cover:**	**Collaborative Learning Technique(s)**	**Strategy(ies) to be used:**
	Interaural Time Differences CH10 (15min)	Clusters	Create a Visual Aid
	Broca's and Wernicke's Areas CH10 (10min)	Pairs	Peer Lessons
	Broca's and Wernicke's Aphasia CH10 (10min)	Group	Discussion

Please provide a **DETAILED BREAKDOWN** of workout activity **OR** attach corresponding document(s)

Interaural Time Difference: Students will be grouped into clusters and discuss what interaural time differences are and how they help us determine the location from where a sound originated from. They will also be asked to draw a picture that illustrates how ITD works.

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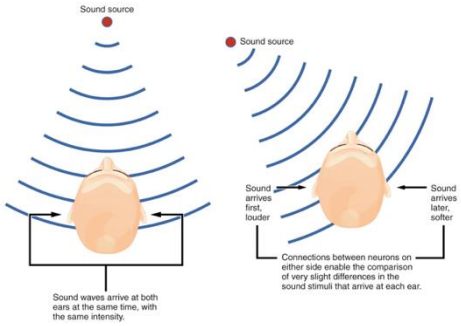
- Estimate the location of a sound both by taking cues derived from one ear and by comparing cues received at both ears
- Neurons in the brainstem compute the difference in a sound wave's arrival time at each ear
- More difficult to compare the inputs when sounds move from the side of the head toward the middle; the difference in arrival times is smaller.
- When we detect no difference in arrival times, we infer that the sound is coming from directly in front of us or behind us.



Checking for understanding: What would happen if we were unable to detect ITD's? How might that impact our daily lives?

Broca's and Wernicke's Areas: Students will be grouped into pairs. One student will be assigned the Broca's area and the other will be assigned the Wernicke's area. They will be able to use their notes as a resource to create a short presentation to give to their partner. They will discuss what functions their area serves. Once everyone has finished presenting, we will reconvene as a group and discuss what we talked about in pairs.

- Broca's area
  - Anterior speech area in the left hemisphere that functions with the motor cortex to produce the movements needed for speaking
  - has "programs" for words, houses instructions for motor cortex, telling it how to move to produce speech
- Wernicke's area
  - Posterior speech area at the rear of the left temporal lobe that regulates language comprehension; also called the posterior speech zone
  - understand meaning of words / comprehension

Check for understanding / Segue: What would happen if one of these areas did not function properly?

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Broca's and Wernicke's Aphasia: Students will work as a group to define aphasia and contextualize aphasias within the frame of the Broca's and Wernicke's areas.

What is an Aphasia?

- The inability to speak or comprehend language despite having normal comprehension or intact vocal mechanisms

- **Broca's aphasia** is the inability to speak fluently despite having normal comprehension and intact vocal mechanisms
  - can understand but cannot speak
  - "word salad"
- **Wernicke's aphasia** is inability to understand or produce meaningful language even though the production of words is still intact
  - can speak but not understand what you're saying

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SAMPLE SESSION PLAN

SI Leader: Abby Hocklander

Session Date & Day of Week: Monday, April 16th

Course: Spanish 120

	Content to cover:	**Collaborative Learning Technique**	**Strategy to be used:**
Warm-up/ Opening: **(2-4 min.)**	Ser v. Estar	Turn to a Partner	Role-Playing

Please provide a **DETAILED BREAKDOWN** of warm-up activity **OR** attach corresponding document(s)

5 mins: Have students pair up in partners and have them chose things to describe themselves in Spanish using ser and estar. Call on students to share some of their descriptions out loud.

- Examples:
    - Soy flaca & Estoy en la clase

CFU: How do we use ser and estar in our everyday English? Is there a difference? We say the phrase "I am" for both ser and estar references but the context explains the difference.

Cool-down/ Closing: **(2-4 min.)**	**Content to cover:**	**Collaborative Learning Technique**	**Strategy to be used:**
	Pronouns	Divide and Conquer	Board Activity

Please provide a **DETAILED BREAKDOWN** of cool-down activity **OR** attach corresponding document(s)

5 mins: Assign each student to either Reflexive, IOP or DOP. Have the student write all the pronouns for the subject the were assigned on the board. Allow time for the other students to see and understand the differences between the pronouns

- Reflexive : me, te, se, nos, os, se
- IOP: me, te le, nos, os, les
- DOP: me, te, lo/la, nos, os, los/las

CFU: ask students which set of pronouns replaces the "whom the action is being done to"? IOP

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Workout: **(44-46 min.)**	**Content to cover:**	**Collaborative Learning Technique(s)**	**Strategy(ies) to be used:**
	Preterit Reflexive	Group Discussion	Note card Circles
	IOP	Clusters	Fill in the Blanks

Please provide a **DETAILED BREAKDOWN** of workout activity **OR** attach corresponding document(s)

20-25 mins: Make the students form a circle and pass out note cards to each student. Have them fill out one of the conjugations for the reflexive verbs in the preterit. After filling out one conjugation, pass the card to the next student so that they can catch possible mistakes and have a chance to conjugate more words. Have them also translate the meaning of the verb. Have 6-9 cards ready.

Verbs to be used: vestirse, acostarse, lavarse, cepillarse, dormirse, levantarse, irse

Example of completed card:

Vestirse –to get dressed

Me vestí	nos vestimos
Tu vestiste	os vestisteis
Se vistió	se vistieron

CFU: Pick a card up and a subject and ask what does this conjugated verb translate to? Ask one for each student.

- What does te levantaste mean?
    - You stood up

Also ask what happens to a stem-changing verb in the preterit based on its ending

10-15 mins: Split the class up into clusters and have each cluster work on certain problem sentences on the board. Have them fill in the blank of the sentence including the IOP in the correct order. Come together as a class to answer all the sentences and look at sentence structure.

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Sentences:

1. Yo _____ (bought you) un bate Nuevo para su partido este viernes
2. Tu _____ (gave him) su tarjeta así que puede comprar comida para la cena.
3. Nosotros _____ (turned in to him (entregar)) nuestros ensayos al profesor.
4. Ellos _____ (walked them) a los perros en el parque a lado de las canchas de tenis.
5. Tu _____ (told me), “si quieres ser un campeonato, corre por las mañanas”.

Answers:

1. Yo te compré un bate Nuevo para su partido este viernes.
2. Tú le diste su tarjeta así que puede comprar comida para la cena.
3. Nosotros le entregamos nuestros ensayos al profesor.
4. Ellos les caminaron a los perros en el parque a lado de las canchas de tenis.
5. Tú me dijiste, “si quieres ser un campeonato, corre por las mañanas”.

CFU: Ask students to on the spot translate the sentence. Ask students how verbs in preterit are conjugated based on their endings, and what IOPs are and how to identify what the IOP would be based on the sentences given.

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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 contribute.

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 their findings to the large group.

Hints

If possible, see that each group is provided a flip chart or a space on the blackboard to record the important points of their discussion. Allow time for each group to report back to the large group. You may have to assign someone from each group to report back.

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 that they can immediately move to a discussion with their partner without previewing or reviewing concepts.

Think / Pair / Share

Group members work on an assignment or project individually and then share their results with a partner. After discussing with a partner, share findings with the larger group.

Hints

The goal of a Think/Pair/Share is to allow participants time to think BEFORE they discuss. 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.

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When doing a Think/Pair/ Share, give participants a specific amount of time (30 seconds, five minutes, etc.) for the "think" portion.

Individual Presentation

An Individual Presentation is an uninterrupted presentation by one person to the group. Group members present on a topic, question, or issue to the group. Unlike an Assigned Discussion Leader, this is a formal presentation delivered to a captive audience.

Hint

Individual Presentations should typically be used sparingly and only when independent research is required.

Assigned Discussion Leader

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, you may need to be prepared to allow a little time for the person leading the discussion to prepare for the discussion. This technique works best when everyone or nearly everyone in the group is given an assignment to be the "expert" on.

Jigsaw

Jigsaws, when used properly, make the group as a whole dependent upon all of them in 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.

Hints

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

Each group member is surveyed to discover their position on an issue, problem or topic. This process insures that each member of the group is allowed to offer or state their point of view.

Hints

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

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PUTTING THE PIECES TOGETHER: FACILITATION STRATEGIES, CLTS, AND LEARNING STRATEGIES

It can be confusing to delineate at times between Facilitation Techniques, Collaborative Learning Techniques (CLTs), and Learning Strategies, and all are critical to ensure a successful SI session. All three of these SI session building blocks are important, because they govern the main interaction patters that take place in an SI session: interactions between SI Leader and Students; interactions between Students and Content; and interactions between Students and Students. The image below provides a visual representation of the purpose and relationship of these key SI session components:

SI Leader + Students = ***Facilitation*** Strategies

Course Material + Students = ***Learning*** Strategies

Students + Students = ***Collaborative*** Learning Techniques (CLTs)

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LEARNING STRATEGIES: STRATEGY CARD MATRIX

Divide Strategy cards[1] into categories and give each category a descriptive name.

Category A:				
Category B:				
Category C:				
Category D:				
Category E:				
Category F:				

[1] Adapted from "*SI Shuffle"* Texas A&M University

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SAMPLE LEARNING STRATEGIES

Learning Strategies connect the students attending the session with the content the SI Leader has identified for coverage in the session. There are *many* Learning Strategies that can be used, and experienced Leaders can take part in creating new strategies for their programs. The International Center for SI has a collection of Learning Strategies in their deck of Strategy Cards, and attendees of SI Supervisor Training can access an electronic copy of the cards and personalize them to their programs. This can be a great way for Leaders to engage as creative contributors to the legacy of the program.

There are also some tried-and-true Learning Strategies that are great foundational pieces to start from. Some of these are described in the pages that follow.

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LECTURE REVIEW

1. During the first 10-15 minutes of the SI session, have the students summarize the most recent lecture, or have them identify the key words from that lecture.

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

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

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

5. Reinforce new terms or important information by using clearly constructed 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.

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.

10. Formulate potential answers from details in the lecture notes.

Tip: This is a great activity to get students familiarized with several different note-taking techniques. You can use Lecture Review to introduce Outlining (as stated above), the Cornell Method of Note Taking, Matrix, and Mind Mapping. Students can use these methods with all classes.

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NOTE REVIEW

Note Review is a good strategy to use early in the academic term because:

- Students see the importance of taking comprehensive notes.
- Students can fill in the gaps in their notes, as well as clear up discrepancies and misinformation.
- Each student in the session has a chance to participate.
- SI Leaders highlight and discuss the language of the discipline, and the new vocabulary. Students identify meaningful examples and check for understanding. Checking for understanding is a key facilitation skill that should be used in all SI's.
- Take a look at the Note Taking discussion in Part VI for methods and procedures.

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 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 inconsistent with what they have recorded. It is important to note that 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:
    - 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 number for specific questions to ask the instructor in the next class.

3. The pressure of reading may unnerve a student who believes that his or her notes are too rough to read.

    Since reading aloud is a form of performance, some students may be reluctant. Gently encourage the student, but if he or she is not comfortable, don't push. Perhaps note taking skills and confidence will improve as the term progresses and the usefulness of good notes becomes apparent.

4. As you approach the end of the SI session, if material has not been discussed, suggest to members of the group that they should finish reading through their notes. If they have questions or blanks in their notes, tell them to work with another student to find the answers or to bring these questions to the next SI session. If time does not permit the discussion of major concepts or vocabulary, draw attention to them.

    Encourage students to read over the items in their notes and to use the text to supplement their notes.

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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 for textbook information. Determining the major points can help to 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: Tell students 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. _____
    a. _____
    b. _____
II. _____
    a. _____
    b. _____
III. _____
    a. _____
    b. _____

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 eliminating the notation. By the end of the term, students should be able to complete their own outlines without assistance. The best way to get students involved, even those students who are too shy to participate, is to have them write their own outline. You can use technology to put the Incomplete Outline on the board or the projector; then, students can copy it for their own notes.

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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 its relationship to similar categories of information. It is a helpful tool for students to compare and contrast information.

Colonization

	Religious	Economic	Political
Dutch			
English			
French			
Spanish			

Sample Vocabulary Matrix

Term	Paraphrased Definition	Example from Lecture Notes	Example from Textbook	New Example
oligopoly	a market where a few firms produce all or most of the market supply of a good or service	airlines	soft drink manufacturers	domestic car makers (G.M., Ford, Chrysler)
monopoly	a firm that produces the entire market supply of a good or service	Niagara or Mohawk	none	New York telephone local service

Tip: The SI Leader should always have a completed Matrix to use as a guide. As the semester, progresses, the Matrix becomes less and less complete until the students are then determining the headings and content themselves.

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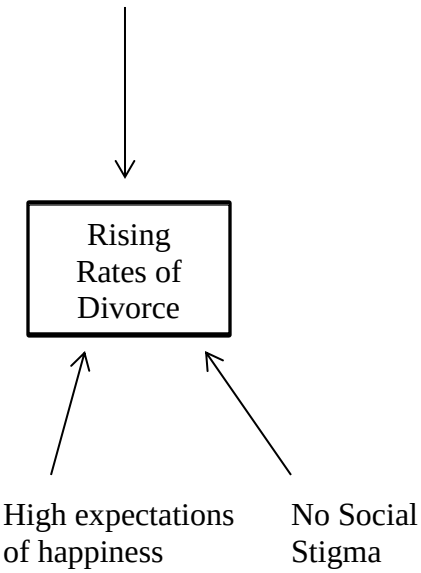
VISUAL TECHNIQUES

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 illustrate 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 on the following page. These should be adapted to the subject matter. The key idea is to visualize the information and to use as few words as possible.

Mapping:



Picturing:

Positions of Theorists on Basic Assumptions

Freedom Maslow, Rogers, Freud, Skinner **Determinism**

Good Rogers, Maslow, Freud **Evil**

Holistic Jung, Rogers, Maslow, Freud **Atomistic**

Environment Skinner, Erickson, Freud, Jung **Heredity**

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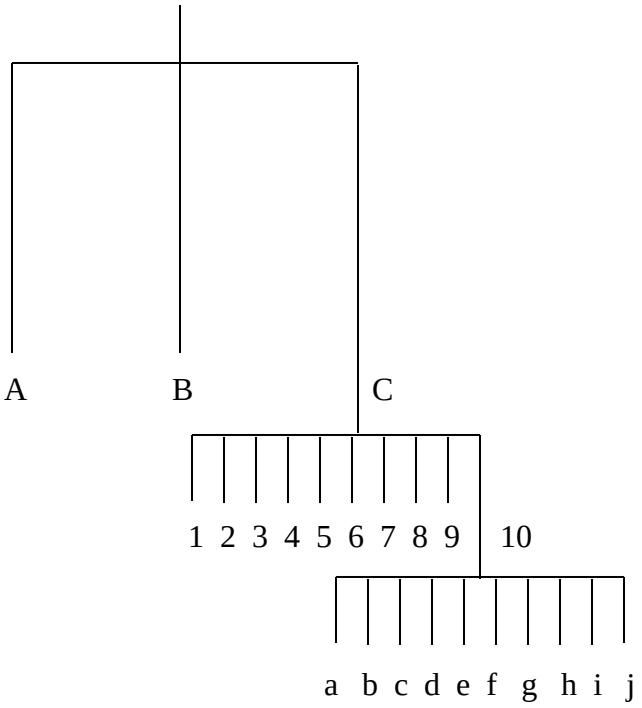
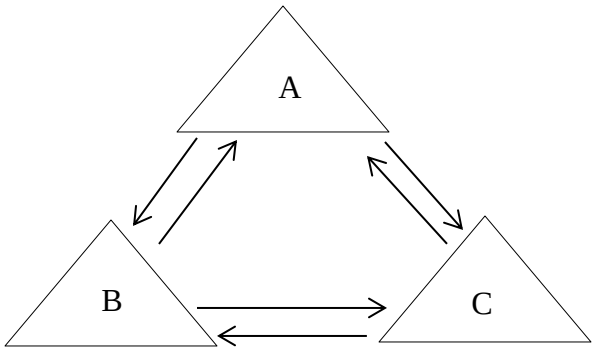
Identify courses or disciplines in which these visual models might be useful.

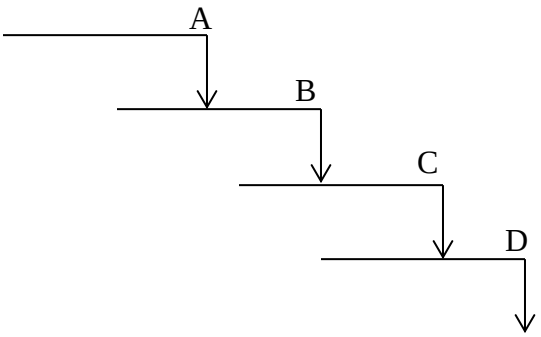
(1)

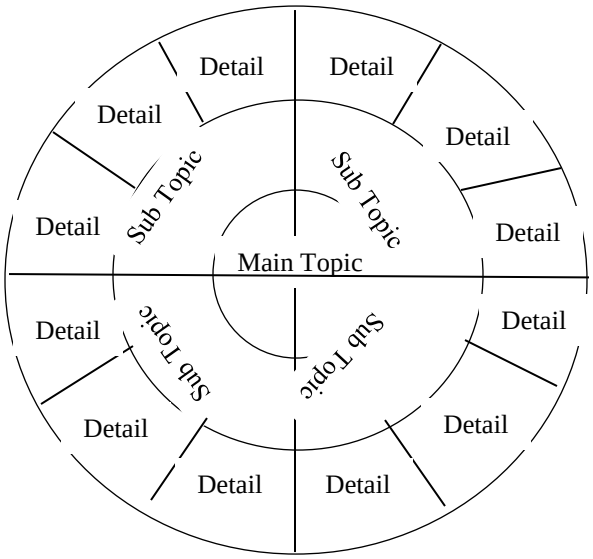


(2)



(3)





a	b	c	d

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THE INFORMAL QUIZ

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 thinking and discussing rather than grading.

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.

More specifically the Informal Quiz enhances an educational experience in the following manner:

1. Allows weaker students to participate equally with stronger students, in the same session, since questions are designed to have more than one correct answer.

2. Permits each student an opportunity to demonstrate competence. Allowing the random answering of questions, it lets the shy or unsure students volunteer to answer the one or two questions for which they have answers.

3. Promotes student self-testing of their comprehension level.

4. Provides the SI Leader an opportunity to reinforce student participation.

5. It allows students to work with test material in a cooperative rather than competitive way.

6. Facilitates students' ability to interpret, answer and predict test questions.

7. This is a nonthreatening activity because:
    a. everyone is writing, even if they do not know the answer; they can write down the question instead
    b. uses scrap paper
    c. paper is not turned in or seen by other students

8. 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 is a powerful way to allow Leaders to Check for Understanding – a key facilitation skill.

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The Informal Quiz Procedure

1. Use scrap paper or half sheets.

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 too difficult, but should emphasize recall of key points or of minor points related to key points. One or two questions should require use of higher order thinking skills.

5. Use a variety of questions formats, including fill-in-the-blank, multiple choice, T/F, etc.:
   (a) "The answer is _____; what is the question?"
   (b)"True or False: The theory behind …”

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 participate immediately.

8. Call on the 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.

11. Keep it light and short. Ask a maximum of ten questions.

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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 SI session. 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, and understand how it fits in with the topic under discussion.

Vocabulary Activity Goals

1. Identify key technical terms in their notes and text and be able to generate a precise definition.

2. Paraphrase the definitions in their 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 SI sessions:

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 looking for is whether the students can use terms correctly.

2. Before a test, copy from the textbook a few pages that cover important material; pass out red pens and suggest that they circle all key terms in red. Then, 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 of all of the terms and pair together terms that they feel are connected in some way. Then, report back to the larger group.

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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 a new example.

Term	Meaning	Example from Notes	Example from Text	New Example

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 from the text.

2. Have students predict vocabulary words that might be used in a lecture from text readings.

3. Work with students on application of terms. Instead of saying "What does _____ mean?" say "Here is a situation....This is a good example of what?"

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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 that the dates are truly important before using this procedure. Then, 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.

Then, have the students draw a duplicate Time Line directly below the one they have 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. Have students write a sentence to explain the significance of particular entries on the Time Line.

Remember, Time Lines do not necessarily need to be organized around dates; Time Lines can also cover processes or events in a series. (e.g. mitosis, a bill becoming a law, etc.)

Samples

1. U.S. Events: (Initial Time Line)

Erie	Canal Railroads	Civil War	Industrialization	WWI
1825	1850	1860-65	1900	1917

2. European Immigration to the U.S.: (Secondary Time Line)

Wave I Irish & German	Wave II N.W. Europe	Wave III S.E. Europe	Quotas
1840	1880	1915	1921

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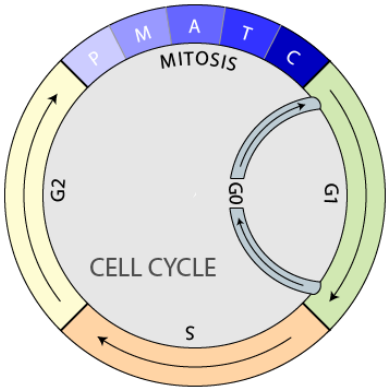
3. The Timeline of Mitosis

Prophase Prometaphase Metaphase Anaphase Telophase
Telophase

0 20 40 60 80
Time (Minutes)

[G2][----------Mitosis----------[Cytokinesis]----------][G1]



PREPARING FOR EXAMS

Students often become anxious about the language in a test question. It is important that students in your group 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 SI sessions. This type of activity is good shortly before an exam when you have a large number of non-regular participants in the group. Plan to work together to create review sheets for each predicted question at the next session before the test. It is important not to cover practice exams created by the instructor during sessions; they are provided for students to utilize outside of class. The students in the SI session should create their own practice exam using their notes/textbook, or the SI Leader should offer students problems similar to those on the practice exam.

Review 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, and/or 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, i.e. assigned novels.

Develop Practice Exams
Have students submit 3 to 5 questions. These questions can be assembled into a practice or review exam and returned to students for study. If appropriate, periodically present 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. The summary sheet could be written by the SI participants as a group. If the instructor distributes a sample question or has a file of previous tests on reserve in the library, discuss the wording of the questions in SI.

Using a Practice Exam in the SI Session
Ask the instructor if he or she feels comfortable looking over the students' questions and making suggestions. With the instructor's permission, announce to the class that the practice exam, developed by the students, will be used in the next SI session. Make sure the students understand that the questions were developed by the students and are not developed by the instructor. It is also a good idea to reiterate that the practice test may or may not cover content that will be on the exam. If providing a practice exam/study guide, make sure there is a time to debrief and discuss the information. Also, do not hand out an answer key since the study guide was student created; the group should be working together to find the answers.

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MATH SI 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." You may want to write an agenda of the session on the chalkboard for each session. Some students find this very helpful.

Syllabus
Review the syllabus with the students early in the academic term. Take note of the homework assignments, exam dates, and grading policy. Is the homework graded? If it is graded, announce that you are not allowed to work homework problems, but that problems similar to the homework will be discussed and worked on during the SI sessions.

Prelecture Notes
Use the titles on the syllabus to guide you to what are the important parts of the text chapters. Note which problems are assigned as homework. Look at chapter headings, subtitles, diagrams and captions, and scan the text briefly. When appropriate, have students 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 that you will have room to incorporate lecture notes with your pre-lecture notes.

Try taking your prelecture notes from the text in one color of ink and lecture notes in another color of ink. Be sure to read the chapter summary (read it first if you are short on time). During the lecture, add the prelecture notes to the class lecture notes. Work the problems along with the instructor. After the lecture, work homework problems which relate to the activity. Reread the text book sections which apply. These practices impact what you retain and can retrieve.

Lecture Notes
During the first week, talk about lecture notes for 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 instructor 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 that students can see your strategies for note taking. This can provide a basis for a discussion of note taking skills. If an SI participant has good notes, have them model/demonstrate how they took their notes.

During the discussion on note taking, you can suggest that 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 trivia. 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

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students to rewrite their lecture notes as soon as possible after the lecture. Remember to ask for other students to share their strategies as well.

Textbook
Share with the students your method for reading the textbook. Focus on the different parts of the chapter, 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 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 work 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.

Additionally, SI Leaders will want to consider strategies that are particularly well-suited for math sessions, such as:

Boardwork Model – See Part V of the manual.

Vocabulary Activities – See Part V of the manual. This is particularly useful in Math SI sessions because instructors and textbooks often use discipline-specific language.

Time Line – See Part V of the manual. This technique utilizes visual representation to improve the processing of material. Begin with a horizontal line that represents the continuum of time. Important events are inserted relative to each other, creating points on the line. Definitions or examples of terms on the Time Line should be added when appropriate. While often used in Humanities SI sessions, Time Line can be helpful in Math SI sessions for plotting steps important in solving a problem or completing a process.

First Line Only – This strategy is use for students who need to be encouraged to take the first step toward finding the solution. In order to complete this exercise, the following is recommended: Firstly, you need to present a variety of types of problems so that the learner builds confidence in addressing the first level of the problem. Secondly, you will also need to give a strict time limit so that only the first step towards the solution is addressed, e.g. for Calculus, *Instructions: Examine the problems below and tell how you would begin the solution to each one:*

1. $\lim_{x \to 0+} \sin x^x$

2. $\lim_{x \to 0+} \frac{\sin x^x}{x}$

Send a Problem – This strategy can work in pairs or individually depending on the size of the group. Generate a list of problems and assign each a different problem. Have students complete the first step. After a minute, have the students pass their problems to the right and have those students complete the next step. Continue the process until all steps are complete.

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THE BOARDWORK MODEL

Definition

Well-organized board work in SI sessions is crucial to helping students understand how to solve specific problems. The Boardwork Model is a method of organizing information in order to facilitate an understanding of problem-solving strategies as a process. It requires four types of information to be collected for each problem; (1) prerequisite knowledge; (2) mathematical steps; (3) a narrative of the steps; and (4) identification, solution, or construction of a similar problem. SI Leaders use the Boardwork model when: (a) students don't know how to solve a problem; (b) students are stuck within a problem/solution; (c) to check student understanding of how to solve each type of problem; or (d) to help organize and "chunk" different types of problems.

Rationale

Problem-solving courses like chemistry, physics, or mathematics are major obstacles for many students. Students often don't know how to begin to attack a problem or do not know what to do when they encounter difficulty in the midst of finding a solution. In general, SI creates a safe space for students to learn 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 gets a right answer.

Please note that the problem solving SI sessions are not a venue for students to work on homework assignments. The SI Leader should come up with problems—and test them before sessions—that are new to students but similar to those covered in class or on homework.

Procedure

1. Arrive early and organize the board into four columns. Label like the diagram on the next page. Allow enough room for two people to write at once.
2. Ask for a volunteer to write on the board. If you encounter reluctance, reassure them that the group will tell the scribe what to write. (They don't need to know what to do already.)
3. As a group, brainstorm all formulas, equations, rules, etc. required to solve the problem.
4. Ask for another volunteer scribe.
    a. The first volunteer will list the mathematical steps in the solution; the second will write out the narrative of the steps in the solution. This should be done simultaneously, and the students need to verbalize the steps in their own words.
    b. Encourage students whose skills are verbal to try the mathematical steps and vice-versa. Remember, the group will help them.
    c. Depending on the ability level of the group, identify, solve, or construct and solve a similar problem. Generally, weaker students should begin by identifying similar problems, but do not underestimate their ability to or how much they will benefit from constructing a problem. If they

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can get inside a problem enough to construct another one, it will help them understand problem solving more thoroughly.

This is the standard Boardwork Model. The model can be adapted to fit various problem-solving disciplines.

Prerequisites	Mathematical Steps in the Solution	Narrative of Mathematical Steps	Similar Problem: Identify, Construct, Solve
Include relevant equations, formulas, charts, and general rules for solving the type of problem. Include the source of this information (notes, text, previous course) For example: % yield = actual / theoretical	Solve the problem step-by-step. Number each step. 1. 2. 3. 4.	Describe what is happening in each step of the solution and why the group decided to do it. Use the students' own words initially, but use this column to introduce students to the language of the discipline. 1. 2. 3. 4	Check understanding by asking students to identify, construct, and solve similar problems. Provide the answer and the source of any problems used.

Below are examples of how the Boardwork Model could be used in a math course or a chemistry course. Notice that the columns serve a slightly different purpose here than they do above. However modified, it is always important to include the narrative of the steps taken to solve the problem.

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Problem: There is a line whose slope is 1 and whose y-intercept is 17. What is its equation in slope-intercept form?

Prerequisites	Mathematical Steps in the Solution	Narrative of Mathematical Steps	Similar Problem: Identify, Construct, Solve
Slope-intercept equation y=mx+b m=slope b=y-intercept	1. Write down the slope-intercept equation. 2. Plug in the slope value. (m=1) y=1x+b 3. Plug in the y-intercept value. (b=17) y=1x+17 4. Simplify the equation. y=x+17	1. Recall the slope-intercept equation. 2. Identify that m is the slope. (m=1) 3. Identify that the y-intercept is b. (b=17) 4. Plug in the values in their correct order and orientation. Simplify the Equation because the 1 is not needed in front of the x.	There is a line whose slope is 3 and whose y-intercept is 16. What is its equation in slope-intercept form?

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Boardwork for Balancing Equations:

_____CH_4 + _____O_2 → _____ CO_2 +_____ H_2O

Prerequisites	Steps in the Solution	Narrative of Steps	Similar Problem:
-Identify elements in an equation -Understand molecules -Perform simple multiplication of coefficients	1. Identify the elements found on either side of the equation. (C, H, O) 2. Identify the elements that are not balanced on either side of the equation. The left side has 4 hydrogens and the right side has 2 hydrogens. There are 2 oxygens on the left and 3 oxygens on the right. 3. Plug in a value to try and balance the hydrogens and oxygens. (A coefficient will distribute to each atom in a molecule.) CH_4 + 2 O_2 → CO_2 + 2 H_2O 4. Check the make sure the equation is balanced. (Are there the same number of atom on each side of the equation?) 5. Simplify if you can. (In our example we do not need to simplify.)	1. See if the equation is balanced to begin with. 2. If the equation is not balanced, write down the number of atoms on each side of the equation. 3. Try to think of coefficients that would balance an equation and plug them in. 4. Balancing equations takes a lot of practice but you can check your work as you go. 5. Simplify to the smallest multiples for each coefficient.	Balance the following equation: SnO_2 + H_2 → Sn + H_2O

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HUMANITIES SI SESSIONS

Differences
The humanities provide a way of seeing and knowing that is different from the sciences. In the sciences, students learn to use words like: *reliability, verifiability, clarity, empirical evidence, correspondence with natural laws, research methods, and graphic presentation.* In the humanities, students are more likely to encounter words like: *ambiguity, uncertainty, intuition, insight, self-knowledge, truths, process, symbolic representation.* In the humanities, aesthetic forms--such as metaphor, image, sound, narrative--lead to understanding rather than empirical research.

Elaboration Rather Than Reduction
The scientific method assumes that truth may be discovered independently of "context" or "time." Physicists, for example, are used to having a high level of certainty, and may find it difficult to pick out what is important in a literature class. Knowledge in physics is arranged vertically (certain things must be learned before others); whereas knowledge in the study of literature is not as vertical and the order in which one takes the courses may not be important.

The tendency for science instructors is to simplify complex ideas, while literature instructors tend to favor probing for complexity. Instructors in the humanities complain that students want certainty rather than enjoying the struggle with complexity. Even the artist who occupies a central position in his or her own discipline may struggle with the issues of certainty and judgment. Students are not comfortable with questioning ambiguities, and lack a map or framework from which to build judgments. SI Leaders must help students move beyond simple answers in the humanities. The Leaders need to design sessions that encourage elaboration rather than reduction of information. Students may struggle with the fact that, while there may be no one right answer, just any answer will not do either.

Reliance on Language
Speaking and writing are methods of presentation most prevalent in the humanities. Language is valued; a well-turned phrase is applauded. In humanities classes there may not be much information written on the board and in the textbooks there may be few illustrations or diagrams. This lack of visual presentation may be disconcerting for those used to having it. Because so many lectures in the humanities rely on words, SI sessions need to provide visual models. These visual models should help show how concepts are related to each other.

Because the content of the humanities is particular, students must pay close attention to what is said, how it is said, and by whom it is said. Students new to the discipline may not pay sufficient attention to the author of a statement. Instructors frequently summarize various scholars' positions ("according to Tillich") but students may not write down the name of the scholar or critic and then when asked to discuss a position that is identified by the scholar's name, they cannot do so.

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Original Thought
Students who expect to do well in the humanities should, as one instructor of literature said, find out all that is out there and then write something different. SI Leaders must help students develop positions that go beyond, "I like it" or "I feel good about this text." Beginning students may feel that they cannot write anything new about the text, and thereby, have trouble writing anything at all. Or they may feel their arguments must agree with the instructor, not appreciating that the instructor often welcomes an opposing point of view which is clearly developed.

Writing Skills
Writing itself can pose special challenges for students in the humanities. SI in the humanities is often attached to a course in which students are graded and tested by essay (either essay exam or papers) because the course material requires more than a recognition knowledge of the material.

When writing is intensive, the SI Leader must respond with appropriate help in order for students to succeed. Although the SI session is not the place for one-on-one help with individual writing problems, it is a place where ideas can be generated and where students can practice predicting and answering possible test questions. One way this works well is to create a question, then ask students to brainstorm all the ideas and facts they know about the question. Students can put similar ideas together and state which facts support the ideas. The group can then write the first sentence or two of the proposed essay. Individuals can be encouraged to finish the practice essay on their own, and read them to each other.

Additionally, SI Leaders will want to consider strategies that are particularly well-suited for Humanities SI sessions, such as:

Visual Techniques, Time Lines, Vocabulary Activities, and Matrix – For all, see Part V of the manual.

Identify the "Big Idea" – Ask each student to tell what he or she thought was the most important concept, idea, or new information students learned during a particular lecture or even a session. Ask each student to offer a different "take home" concept. Students often feel overwhelmed by the sheer volume of information they have to deal with and this technique helps them identify and organize the information presented.

One Minute Paper – The One Minute Paper is designed to help students realize what they know or do not know. The SI Leader should ask the students to take out a piece of paper and write on the topic presented in the SI session. Remind them it is most important that they put their thoughts on paper in their own words, not that they produce a polished piece of writing. Additionally, the SI Leader may choose to encourage conversation regarding similarities and differences between students' ideas.

Condensed from "Supplemental Instruction in the Content Areas: Humanities" by Sandra Zerger in Supplemental Instruction: Increasing Achievement and Retention (Deanna C. Martin and David R. Arendale, editors) Jossey Bass Publishers, Number 60, Winter 1994.

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POST-EXAM SESSION

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 discover those patterns will help them self-correct. One goal is to identify correct answers and associate them with learning strategies that worked for the student; students can also identify incorrect answers and discover study skills that might be helpful. Asking students these questions may identify areas where the students excelled or where they need to focus their energies more for the next exam.

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. Which questions did you miss/lose points on? Do you notice any patterns? Are you able to identify why you got this question wrong?

8. What changes might you make in the way you prepare for the next exam in this course?

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POST-EXAM SURVEY

Score yourself in terms of preparation for the exam.

	Did	Did Not	Score
I read the material when assigned.	7	0	
I read the regular textbook and *understood* this material adequately.	7	0	
I read the supplemental textbook and had a good understanding of it.	12	0	
I reviewed the readings carefully before the exam.	4	0	
I have good, complete notes, and when I review them, I can understand them.	24	0	
I studied my notes thoroughly before the exam (until I knew them well enough that I could have told someone what was in them). Just reading through them is not a good score.	24	0	
I attended lecture regularly. (missed 2 to 3 times = 0)	12	0	
I attended SI sessions. (1 or 2 times = 1; regularly = 8)	10	0	
	Add up your score.		

Note from an SI Practitioner: I observed a humanities class in which the professor read these questions to the class before he handed back the exam. He had them score themselves. Then he told them that the score they gave themselves should be the score on they received on the exam—big sighs! He handed back the exams and asked them to raise their hands if their survey score was more than five points higher than the exam score; surprisingly, only a handful raised their hands. So, it appeared that they had answered honestly on the survey. If their score on the exam was lower than five points from their survey score, he asked them to come see him so they could talk about study strategies.

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