Once you have planned your session by deciding what is the most difficult material, why it is difficult, and matching that material with a learning strategy, the next step is successfully conducting the session. Facilitating a good SI session is much easier with a good plan, but there are important techniques aside from your plan to remember as you facilitate the session. Sessions are generally structured as follows:

1. Introductions (first session of the semester)
2. Addressing Student Needs/Allowing Student Input to Agenda (what would the students like to address before they leave the session? Remember, don’t address these needs yet.)
3. Setting Agenda (tell the students what you have planned for them)
4. Strategies (facilitate the one or two activities you planned for the session)
5. Closure (how can the group summarize what they have learned this session?)

The proven learning strategies that we encourage you to use (and provide for you in this manual) foster the interaction patterns that have been demonstrated by research to result in a gaining of understanding for students. Therefore, once you have planned using these strategies, your job during the session is to facilitate effective interaction patterns. In order to do so, there are three techniques that you should keep in mind and practice throughout each session:

- **Redirecting Questions** (whenever possible, ask students to answer questions directed at you)
- **Wait-Time** (the longer you wait within reason, the more and more elaborate student responses you will receive)
- **Checking for Understanding** (how can you be sure the students are gaining understanding? Check!)

In this section, you will find in-depth descriptions, explanations, and practical applications for the techniques that successful SI leaders employ in their sessions.
OPENING AND CLOSING SESSIONS

Definition and Rationale:
Because SI sessions are meant to be informal, the leader must clearly communicate to the students when the session is starting. The students will need to begin with an activity that eases them into an academic mindset. In addition, when the time is up, students need closure in order to confirm the understanding that they have gained.

Structure of SI Sessions: Most SI sessions should be structured as follows:

1. Introductions (first session of the semester)
2. Addressing Student Needs/Allowing Student Input to Agenda (what would the students like to address before they leave the session? Remember, don\'t address these needs yet.)
3. Setting Agenda (tell the students what you have planned for them)
4. Strategies (facilitate the one or two activities you planned for the session)
5. Closure (how can the group summarize what they have learned this session?)

Setting the agenda for the session is usually the first step, with the exception of the first one or two sessions of the semester. This is the official opener, but this section is intended to suggest opening closing activities or strategies you can use in your sessions. Addressing student needs (see Planning Flexibility on p. 90 for more on this process) is an important part of every session, and it can provide an excellent closure activity—ask a student to go to the board and allow the group to confirm and deny that each issue was covered. However, asking students for questions is not a sufficient opening activity.

Suggested Strategies for Opening and Closing Sessions:
- Advanced Organizers
- Informal Quiz
- One-Minute Paper
- Matrix
- Predict Exam Questions
- Think-Pair-Share
- Note Review
- Analogy
- Concept Mapping
- Visuals
- Vocabulary Development

Tips for Opening and Closing Sessions:
- Arrive Early: is the room locked or occupied?
- Arrange the Room: chairs should be in a circle or half-circle (facing the board). Sit in the circle, not at the front of the room.
- Pass Around the Participation Log (and get it back!)
- Watch the Time: be sure to allow enough time for a closure activity
- Suggest Additional Study: what concepts should students study on their own?
- Ask for Input: what do they want to cover in the next session?
**Definition:**
Collaborative learning can be defined as a learning method in which students work in groups toward a common academic goal. The patterns of interaction in a collaborative learning environment, like SI sessions, should be primarily student-to-student rather than student-leader or leader-student.

**Rationale:**
In collaborative learning, students are responsible for each other’s learning as well as for their own. The success of one student, thereby, helps other students to be successful. Proponents of collaborative learning stress that it increases interest among the participants of the group, increases social skills of the group members, and promotes critical thinking. According to Johnson and Johnson, students who work collaboratively achieve higher levels of thought and retain information longer than students who work alone.\(^1\) Shared learning encourages students to discuss, to take responsibility for their own learning, and become critical thinkers.\(^2\)

**Strategies and Tips:**
- The SI leader should plan for student-to-student interactions. Without careful planning, sessions will tend to be leader-to-student interactions (question-answer sessions).
- There is only so much time in a session, so the number of possible interactions is limited. The student-leader interaction results in only one student’s gaining understanding; therefore, try to increase the number of students talking during the sessions to increase the number of students gaining understanding. (The leader already understands the content and does not need to interact except to guide the students.)
- Students should ask questions to each other, and they should try to answer each other’s questions.
- Using good wait-time helps increase student-to-student interactions.
- The SI leader should redirect the questions back to other students so that students will talk to each other to learn.
- Students should work in small groups whenever possible.
- The SI leader should encourage the students to study together outside of the sessions.

The SI leader should pay attention to the student responses and check for understanding when needed. Ask your mentor/supervisor to observe the interactions in your sessions. If the interactions are diagramed, you will be able to see your progress from session to session. You want to strive toward Diagram 2.

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Redirecting Questions

Description:
Redirecting questions can be considered the process most central to the Supplemental Instruction program. The process itself is fairly simple to understand but difficult to practice without a context in which to do so. The goal of this process is to encourage more and better student-to-student interactions in the sessions. It is based on the concept that we all learn better when we have to explain something to someone else. The natural tendency for anyone is to answer questions asked; this process requires the leader to suppress that tendency and redirect questions back to the group. Perhaps it is easier to illustrate this process with a few examples:

Sample Interactions:

Student to Leader: Who came up with the law of relativity?
Leader: Does someone have the answer to this question?  
[Resist the natural urge to provide a quick answer, so you can go on with more complex questions. Redirect back to the group to avoid a Question-Answer session.]

Student to Leader: What is the derivative of a constant?
Leader: Can anyone find an answer to that in your notes/text?
[Use the resources that students have. Useful when it is obvious that students don't know the answer. Makes students think for themselves and process the material in a way that will be helpful for them.]

Student to Leader: I don't understand how temperature affects a chemical reaction.
Leader: I'm glad you brought that up! Why don't we analyze #5 on the handout to see if we can understand how temperature affects different reactions? Let's see if we can come up with the reasons by the end of the session. [Remember to use responses that offer positive reinforcement. Leaders often will anticipate problem areas and have sample problems on a handout. A useful handout may structure the answers and list steps.]

Student to Leader: I don't know how to do this problem.
Leader: What part(s) of the problem do you understand?
[This will help narrow the question and divide it up in more useful parts.]

Student to Leader: I understand how to get the derivative, but I don’t know what to do next.
Leader: Would someone please go to the board and scribe as we work it together? Or: Would someone please put what you have for this problem on the board?
[Note: This interaction demonstrates that there may be a two- or three-phase process. SI leaders get questions redirected back to them, for example. In that case, help the students to structure the problem, redirecting as you go.]

Redirecting Questions

Additional Sample Phrases:

What is this question asking for?
Why are you thinking of it in that way?
Give an example of that.
Can you summarize the discussion up to this point?
Can you think of another way to think about this?
How is your answer (point of view) different from _____?
Let’s rephrase it on the board and figure out what information we will need to answer it.
Can you be more specific?
How does your response tie into _____?
Let’s look that up in the text.
Let’s write down everything we know about this topic/problem/theory.
How can you relate this to everyday life?
Okay, that’s the book definition, but how do we define that (i.e. in your own words)?
So, how do you think you can redirect 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 even this practice exercise's 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.

Discussion and Debrief:

1. How does this process attempt to break the Dependency Cycle?
2. Map the interaction patterns that occurred during this exercise. Discuss how effective the interactions were in promoting student learning. [See Student-to-Student Interactions on p. 84 for examples of interaction patterns to look for.]
3. 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!”?
4. Make sure you are redirecting the right questions. Can you give an example of a redirection that shows that the leader misunderstood the question?
5. Are there some questions that should not be redirected? Give an example.
6. Give an example of an additional sample phrase for redirecting questions.
**Wait-Time**

**Definition**: 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:
1. The time the leader waits after asking a question
2. The time the leader waits after a response

**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 teachers (SI leaders) regularly utilize at least three 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 probably allows the brain more opportunity to consolidate information, which allows for deeper processing of information. According to de Jong and Ferguson-Hessler, 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” (p. 107).

**Research findings**:

**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. More participation by poorer students
8. 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

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When Students Don’t Respond:

SI Leaders may worry about what to do if no one responds. After waiting 5-10 seconds with no responses, they may want to try one of the following:

- 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.

Practice Exercise:

1. What can you as an SI leader do if no one answers a question?
2. Write one possible question from your discipline to actually demonstrate the technique. Write down several anticipated responses.
3. Use the Think-Pair-Share technique with the others in the group using the question you just wrote down in #2. [See Think-Pair-Share on p. 56 of this manual.]
4. What are some ways you can remind yourself to wait? (Examples: take a drink of water; look at each student)

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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.1

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 have not “got” 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.

Planning Flexibility

Rationale:
You have planned for your session. You arrive at your room five minutes early and arrange the chairs in a circle. Students come in, and you start the session by setting the agenda. Perfect. Everything is running smoothly and according to plan. Suddenly a student asks if you can cover a subject that is not in your plan! You panic. What do you do? Do you abandon the plan?

One of the reasons SI is successful at over 1400 institutions in 27 countries is because it is flexible. When students present needs that may take you away from the content and activities you had planned for that session, you don’t necessarily have to abandon your plan. Instead, adapt it to fit their requests.

General Structure of SI Sessions:

1. Address Student Needs/Student Input
2. Set Agenda
3. Facilitate Planned Strategies
4. Closure

Setting the Agenda:

Before you set the agenda for the session, ask if there is anything in particular the students would like to cover before they leave the session. Ask a student to scribe at the board as they voice their questions/concerns. Just knowing that they have articulated their concern will make it less pressing and allow them to participate fully in the session.

- Sometimes they will ask about material you were already planning to cover. If that is the case, tell them so, but still have the scribe write the question on the board.
- If the questions/concerns are easily addressed by redirecting them to the group, go ahead and do that right away.
- If no other students in the session seem to have the same concern, ask the student to ask you at the end of the session or during your office hours (but still get the question on the board!).
- However, if the concern involves material you did not plan to cover, simply promise that you will come back to it and begin the activities you had planned.

Try to leave the list on the board throughout the session so you can return to it at the end as a closure exercise. Ask the group what items you can cross off the list. Make them give a brief summary of the answer or solution to that question/concern. What items are outstanding? Can anyone answer them now? Ask them who would like to volunteer to ask the instructor. Model your thinking process were you going to solve that problem/answer that question. In other words, give them some leads, but don’t do it for them. This is the best way to keep them responsible for their learning. If there is enough need and material, offer to prepare another session to address it. Don’t feel bad that you did not anticipate or accommodate their every need—that’s impossible!
Planning Flexibility

More Than One Plan:

There are two common situations that leaders must anticipate when planning sessions:

1. The number of students attending will fluctuate. Remember to plan using the SI Session Planning Rubric (pp. 137-138). It will remind you to anticipate a large group as well as a group of three or four. See Too Many/Too Few Students on p. 109 for more on adjusting your plan according to the number of students present.

2. The students did not read or prepare at the level for which you planned activities. The SI Session Planning Rubric also asks you to plan for students who are not prepared. Always have a back-up plan for unprepared students, otherwise you will be tempted to re-lecture. For example, if you have planned for students to work together and solve logic proofs but they haven’t memorized the Rules of Inference or Replacement yet, then pull out your back-up flashcards and drill them. Divide and Conquer, p. 65, is a good activity for a back-up plan when students can read a portion of the text to get caught up.
GENERAL TIPS FOR CONDUCTING SESSIONS

- **Arrive early.** It is very helpful to arrive at your sessions early if you can so that you can arrange the room and be ready for the students.
- Make sure that the desks are arranged in a way that provokes participation. A **full or half circle** is best. If you are unable to arrange the desks, then request a different room through the SI office.
- Always have a detailed **planning sheet with you** at your sessions. You may not remember everything you planned.
- You must always remember to have students **fill out your Participation Log neatly** and clearly, otherwise we will not be able to determine how we are helping the students. Take a minute to learn the students’ names from the sheet.
- **Maintain eye contact.**
- It is more effective to “model” how successful students learn a particular subject than it is to “tell” students what they need to know.
- Make use of the language of the particular discipline, course, and instructor.
- **Watch your time.** Your SI session should only last 50 minutes, or 1 hour 50 minutes for test reviews. Sometimes sessions last longer. This is fine if your schedule permits, but please be courteous and vacate your room on time if another instructor/leader has it reserved for the next hour.
- Try to **encourage all students to participate**, even the reluctant ones. The best way to do this is use a variety of learning strategies¹ because each of them is designed to encourage all students to participate. Also, ask a student to go to the board, don’t go to the board yourself.
- **Avoid interrupting student answers.** You may be able to say it faster, but that won’t help them learn. Protect students from interruptions, laughter, or from those with louder voices.
- Waiting for students to volunteer a well-developed answer takes time. If you are uncomfortable waiting for 10 seconds, join students in looking through notes or text.
- 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 **always providing answers.**
- Lead the session, don’t dominate it. An ideal session² is one where the **students do most of the talking.**
- Remember that your purpose is to mediate the group in studying class materials. It should be more of a **study group and not a lecture.** If you cater everything you do as an SI leader to these basic concepts, then you will be more successful.

¹ More than twenty-five possible learning strategies are described in the **Processes** section of this manual, beginning on p. 39.
² See **Ideal SI Sessions** on pp. 14-15 for a list of the characteristics present in ideal SI sessions.