Section Overview

This section provides teaching strategies to help you create student centered, interactive SI Sessions. It is organized in three sections:
1) Learning Readiness Strategies
2) Content Mastery Strategies
3) Summary/Review Strategies

Many of these teaching strategies can be used at any point during an SI session, as long as they effectively support your learning objectives and help students achieve the necessary level of understanding with the course material.

Graphics in this section will help you evaluate and select appropriate strategies. When planning your sessions, be creative. Don’t be afraid to adapt a strategy to best fit your students, course material, and learning objectives.

**Level of Learning (Bloom’s Taxonomy)**

![Activity encourages Knowledge / Memorization level of learning](image)

![Activity encourages Comprehension / Application level of learning](image)

![Activity encourages Analysis / Evaluation level of learning](image)

**Learning Modality/Learning Style**

- **VARK**: Effective for Aural and Kinesthetic learning styles
- **VARK**: Effective for multiple learning styles

**Games**: The teaching strategies in this section are not games. However, a learning game may help students review material at knowledge or comprehension levels if used appropriately to support a specific learning objective. Students may react negatively to learning games in an SI session; use them sparingly. For descriptions of learning games used successfully by SI leaders, go to the SI Canvas site.
Collecting Concepts

Materials Needed:
Index Cards

Preparation:
Think of a couple of concepts related to your learning objective that can be compared or contrasted with each other. For example, powers of the executive branch vs. judicial branch vs. legislative branch of government.

Procedure:
1. Prepare one index card per student.
2. List a different concept or fact on each card that is related to the topic categories you will be reviewing.
3. Distribute the cards to students and have them move around the room trying to find others with cards related to the same category. (You can either announce the categories initially or have the students discover what they are.)
4. Once the cards have been sorted into different categories by the students, ask each group to present the information to all of the students. Discuss any missing points and clarify any information, as necessary.

Common Questions

Materials Needed:
Index Cards

Preparation:
None

Procedure:
1. Hand each student a blank index card at the beginning of your SI session. Have students move desks so that they are sitting in a circle.
2. Ask each student to write down any content-based question they have related to material covered in lecture.
3. Have students pass their cards to the right. Ask each student to read the new card and put a check mark in the upper right corner if he/she has the same or similar question.
4. Rotate the cards until every student has read every card.
5. Identify which questions have the most check marks and address them throughout the remainder of your SI session. If possible, address all questions but focus on those with the most check marks.
Crossing Terms

Materials Needed:
One copy of each crossword puzzle for each student

Preparation:
Prepare a list of terms and their definitions that relate to your learning objectives and the content you will be reviewing in your session. Create a crossword puzzle using the following Web site: http://puzzlemaker.discoveryeducation.com/CrissCrossSetupForm.asp

Procedure:
1. Distribute the crossword puzzle to your students as they walk into the session and ask them to complete it using any resources they brought with them (lecture notes, textbook, etc.)
2. After the time limit you have established, review the answers. Ask students to explain each answer.

Informal Quiz

Materials Needed:
One copy of the quiz for each student or a quiz prepared for display electronically

Preparation:
Develop five to ten questions that support the learning objectives for your session. Create lower and higher learning level questions in multiple formats such as multiple choice, short answer and/or true/false. Focus on current lecture material as well as reviewing previous material.

Procedure:
1. Display the quiz using the technology available (e.g., document camera). Announce a time limit for students to complete the quiz.
2. When time is up, ask the students to provide and discuss answers.
3. When students answer a question, ask them to “dive deep” – discuss why the answer is correct and another response is not.
4. Allow students to ask related questions. Break from the quiz when necessary. Create an energetic environment where students are discussing concepts at the learning levels expected by the professor, not just rehearsing facts.
Practice Makes Perfect

Materials Needed:
Index Cards

Preparation:
Create questions and answers relating to the content you have planned to review in your session. Each question and answer will be written on separate index cards. Prepare enough questions for 50% of the students that you anticipate will attend the session.

Example: If you anticipate 40 students, prepare 20 question cards and 20 answer cards.

Procedure:
1. Distribute the cards to students and ask them to move around the room trying to find the question or answer that matches their card. Make sure that all of the cards are distributed so that everyone can find their match.
2. Ask students to sit next to the person who has their matching card.
3. When all of the students have found their partner, ask each team in turn to select another team who will be challenged to answer the opposing team’s question.
4. Discuss all of the questions to ensure accuracy and to clarify confusing points.

Think-Pair-Share

Materials Needed:
None

Preparation:
Identify a concept that you want students to discuss in depth or a concept that you know is typically confusing for students. This teaching strategy can be used before or after you review the information.

Procedure:
1. Pose a higher level question relating to the concept you select. Provide students one to two minutes to think about the question individually and ask them to write their response on a piece of paper.
2. Pair students with their neighbor to discuss their respective answers. You can create groups of three, if necessary.
3. Call on several groups to share their responses with all of the students in the session.
4. Elaborate, clarify, and/or correct explanations as necessary, either by calling on other students or by doing so yourself.
Incomplete Outline

Materials Needed:
One copy for each student

Preparation:
Create a detailed outline for the content you plan to review in your session. Save the completed outline for later reference. Create an incomplete outline for students, which contain only the titles of the major topics or major ideas from your completed outline.

This can be adapted for quantitative courses such as physics or chemistry by creating problems that students need to solve.

Procedure:
1. Distribute a copy of the incomplete outline to each student.
2. Set a time limit, and ask students to complete the outline as much as possible using their lecture notes, textbooks, and other class resources.
3. Students can work individually or in pairs or small groups.
4. After the time limit, review the outline as a class by asking students to volunteer the information they found, adding details and clarifying students’ questions.
Jigsaw Learning

Materials Needed:
None

Preparation:
Choose course material that can be divided into specific learning segments. Each segment can be as short or as long as needed, but try to make each segment comparable in terms of time required to review and understand it (e.g., the different phases of World War II).

This learning activity will require at least 30 minutes. You need to carefully plan out each step to ensure students have sufficient time to review material to form their groups.

Procedure:
1. Divide the students into as many study groups as there are learning segments. For example, if the students need to review four phases of WWII, organize the students into four study groups.

2. Assign each study group a specific learning segment. Provide directions to each group that they are to become the “content experts” on their learning segment, and they will be asked to teach their material to other students later in the session. Tell students how much time they have to review the material in their study groups.

3. It is helpful to provide students with the main ideas and key points they should focus on as they review their segment.

4. After each study group completes their review, students form new “teaching groups”.

5. Each “teaching group” contains at least one student from each study group. There should be the same number of “teaching groups” as there were members in the study groups (see diagram on the next page).

6. In the teaching groups, each “content expert” will teach the other students information related to his/her learning segment. Tell students how much time they have to complete this peer teaching task.

7. Bring all of the students together. Summarize the information and provide missing details, as necessary.
Below is a diagram of how the Jigsaw learning strategy works:

Students count off by number of study groups needed (based on how many learning segments you identified).

Each study group reviews and discusses their assigned learning segment. Each student becomes a “content expert” for their segment.

Students reform into teaching groups. There will be as many teaching groups as there were members in the study groups.

Example:
3 study groups (3 learning segments) with 4 students will become
4 teaching groups with 3 members (representing each of the 3 learning segments).
Moving Multiple Choice

Materials Needed:
A, B, C, and D letters (8.5 x 11)
Multiple Choice Questions

Preparation:
Prepare a few multiple choice questions to use. They should be over concepts that the class was having a hard time with or that they will be tested on. The questions could also come from past class quizzes to review.

Activity:
1. Place the letters in four different parts of the classroom.
2. Ask a question from your list to the class, allow time for the students to move around the classroom and stand beneath the letter response they think is correct.
3. Once students have finished moving where they think the answer is, have a discussion by asking students to explain why they chose that answer. After all the groups have had a chance to discuss allow students to move again to their final answer.
4. Now explain which letter was the correct answer that you or the professor were looking for and see if there are any questions about the answer.
5. Continue through the questions on your list in the same manner.
Stump the Chump

Materials Needed:
None

Preparation:
Based on your learning objectives for the session, select a concept or topic that you want students to review in depth. Create questions at various learning levels to ask the students. Ensure that you are well-prepared to answer any type of question regarding the concept or topic.

Create a scoring matrix on the whiteboard.

Procedure:
1. Ask students to take five minutes to write the most difficult questions they can think of relating to the topic you chose. One way to do this is to ask them to create the type of questions the professor presents on exams.

2. Ask the students to quickly compare their questions with their neighbors and select the most difficult questions to ask you. If you cannot answer the question, the students have “stumped the chump”, and they get a point. If you can answer their question, you get a point.

3. You then ask students a question from your list. If they get it right, they get a point.

4. Continue to alternate between students asking you questions and you asking students questions. Ensure that all answers are discussed, including where the information was obtained, why the answers are correct, and how each answer relates to other topics or concepts presented in class.

5. Consider having some type of “incentive” for students if they win, such as candy.
**Textbook Worm**

**Materials Needed:**
Course textbook or course packet

**Preparation:**
Prepare questions from textbook material. Note the page numbers where the answers can be found. Your questions can be related to definitions, concepts, and diagrams or charts presented in the chapters.

Create a scoring matrix on the whiteboard.

**Procedure:**
1. Organize students into several groups.

2. Present a question and provide time for all of the groups to find the answer in the textbook.

3. Tell students that everyone in their group needs to know the answer as you will be calling on students randomly to provide the answers.

4. When students answer correctly, their group earns a point.

5. Continue to work through all of the questions you prepared. Answer or redirect additional questions that students have and add additional key points related to the questions.
The Matrix

Materials Needed:
None

Preparation:
Identify a concept that lends itself to being analyzed through a visual organizer like a matrix. For more information on visual organizers see Section 9: Teaching Study Skills. Complete a matrix that contains all the pertinent information for the topic identified.

Procedure:
1. Each line of the matrix will need a separate group assigned to it. So if your matrix has three main topics (lines) to be analyzed, you should separate into three groups.

2. Have the students study the topic and fill in their matrices in their seats. Tell them how much time they will have to complete this task.

3. Once time is up, fill in the matrix as a class. Have multiple students from each group fill in the matrix, one student per cell, and then have another student who didn’t write anything discuss the answers with the class.

4. Then step in and fill in any gaps that your students may have overlooked.

Example:

<table>
<thead>
<tr>
<th>GROUP 1</th>
<th>Powers</th>
<th>Comprised of</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studies:</td>
<td></td>
<td>Executive Branch</td>
<td></td>
</tr>
<tr>
<td>GROUP 2</td>
<td></td>
<td>Judicial Branch</td>
<td></td>
</tr>
<tr>
<td>Studies:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GROUP 3</td>
<td></td>
<td>Legislative Branch</td>
<td></td>
</tr>
<tr>
<td>Studies:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Compare and Contrast**

**Materials Needed:**
A copy of an incomplete comparison chart for each student that has been prepared on a piece of 8.5x11 paper.

**Preparation:**
Select two or more concepts or topics to review that are best learned through comparing or contrasting (e.g., theories, biological process, laws, sociological or psychological principles, nutrients, etc.). Prepare an incomplete comparison chart (matrix) that contains only the names of the topics or concepts that will be reviewed during this session. Students will complete the chart in small groups.

**Procedure:**
1. Review the selected concepts or topics during your session, without explicitly drawing connections between them.
2. After the review, organize students into small groups. Set a time limit for them to discuss the similarities and differences of the concepts or topics that were reviewed earlier in the session.
3. Ask students to add the details to their charts, based on what they discussed in their small groups.
4. Select students from each group to present the information that they entered on their charts.
5. Elaborate as necessary to ensure all major similarities or differences have been correctly identified and discussed.

**Correct the Error**

**Materials Needed:**
None

**Preparation:**
Create a test question or problem that contains one or more errors. This can be done by mislabeling one part of a diagram or changing the direction of an arrow in a flow chart. It can also be done by displaying a quantitative problem that contains a computational or conceptual error. This teaching strategy can be used with small groups of students as well as having students work individually to correct the error.

**Procedure:**
1. Display the question for students and ask them to identify and correct the error.
2. Ask the students to explain their correction in as much depth as possible.
3. Follow up by asking a student to summarize the concept or information that has been corrected and discussed.
One Minute Paper

Materials Needed:
None

Preparation:
Develop a question on material that was reviewed in the session and for which you want to assess how well students learned and understood what they need to know. You can also use the One Minute Paper to assess what questions students still have about the material that was reviewed. For example: What do you still find particularly confusing about ?

Procedure:
1. Ask students to use a blank piece of paper to respond to your question.
2. Provide 1-2 minutes for students to write a response.
3. You can present a question at the end of a session or during a session after a specific concept has been reviewed.
4. Collect the students’ papers.
5. After your session, review students’ responses to evaluate how well they understood the concept in question or to identify questions students still have.
6. Respond to the One Minute Papers when planning your next session.
7. Depending on what students presented in their papers, you may also discuss with your professor the concepts that students identified were difficult or confusing.

Reorder the Steps

Materials Needed:
None

Preparation:
Choose a concept reviewed in the session that involves a process or procedure, such as mitosis; how a bill passes in Congress; solving a chemistry problem.

Procedure:
1. Present the process, procedure, or problem solution in random order.
2. Ask students to correctly sequence the steps. This can be an individual or group effort.
3. Ask students to explain the sequence they chose. It is important to ask students to explain their answers so you can discover areas of confusion and provide additional review and explanation, as necessary.
4. Conclude by asking one student to review out loud the correct sequence.
Select the Best Response

Materials Needed:
A copy of questions for each student or questions presented electronically via document camera or PowerPoint

Preparation:
Prepare several multiple choice questions that require students to select the best answer. Include answers that are correct, but one is the most relevant or appropriate based on the question asked. This teaching strategy helps students develop critical thinking and effective test taking strategies.

Procedure:
1. Ask students to answer each of the multiple choice questions as an individual effort, just as if they were taking a test.
2. When they have completed answering all of the questions, call on students to present and discuss the answers, including why the correct answer is the best response for the question asked.

Example:
When saving your roll for SI at the first of the semester, I should:
A. Save the file to my computer’s hard drive
B. Save the file to my flash drive
C. Keep the original e-mail the roll was sent to me in
D. Save the file to my flash drive and computer’s hard drive

NOTE: Answers, A, B, and D are all correct, but according to instructions in Section 3, D is the most correct response given.