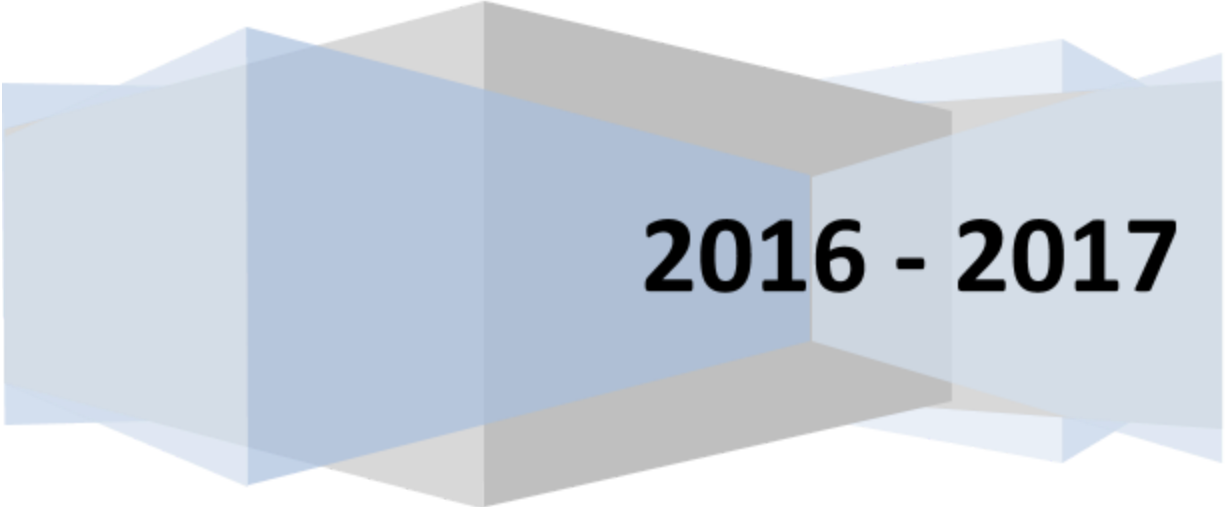


**Jackson College**

**SI Leader**

**Training Manual**



**2016 - 2017**

*All Materials herein developed by Jackson College & the University of Missouri – Kansas City*

## **~ NOTES ~**

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# The Supplemental Instruction Program

Developed by Dr. Deanna Martin in 1973 at the University of Missouri Kansas City, Supplemental Instruction (SI) is an academic assistance program that increases student performance and retention. At Jackson College, we've constructed an SI Program as a support for "developmental level" (i.e., MAT 019, 030, 033, 039) and "gateway" (i.e., MAT 130, 131, 133, 139) mathematics courses. Our incarnation of SI began in the late 2000s and continues to provide a tremendous support system for Jackson College students, as well as a terrific opportunity for student leaders.

SI provides regularly scheduled, out-of-class, peer facilitated review sessions for students in all classes. SI sessions are open to all students in the class and are completely voluntary. MAT 030 has a required 1 hour lab attached to it that takes the place of the voluntary, peer facilitated review sessions. Assistance begins at the beginning of the term and continues until the end. During the first class session, the SI leader describes SI and surveys the class to establish a schedule for SI that will be convenient for most students. The SI leader then schedules two, one-hour sessions per week.

The SI leaders are the key people in the program. SI leaders are students who have demonstrated excellence in academics and communicating with their peers. They are presented as model students of the subject. As such, they present an appropriate model of thinking, organization, and mastery of the particular discipline.

**All SI leaders take part in an intensive training session before the beginning of the academic term. This training workshop covers topics such as how students learn as well as instructional strategies aimed at strengthening student academic performance and management details. Also, any programmatic changes and new policies are shared.**

SI leaders:

- Attend all class sessions.
- Facilitate two, one-hour SI sessions each week. \*\*\* **NOTE: Exception for MAT 019 & 030**
- MAT 030 SI Leaders will choose up to two MAT 030 lab sessions per section they cover, instead of facilitating two one-hour review sessions each week.
- Meet with SI supervisors and colleagues monthly during the term.

Students have the opportunity to become actively involved in the subject matter as the SI leaders use the texts, supplementary activities, and lecture notes from the class as the vehicle for learning skill instruction.

Previous studies indicate that students in SI classes earn higher subject-matter grades and withdraw less often than non-SI students. Also, data demonstrate higher re-enrollment and graduation rates. And, of course, SI leaders develop valuable skills in both doing and communicating mathematics along the way.

# Who's Who in The SI Program?

## SI Faculty / SI Instructors

These are the faculty teaching the classes in which SI leaders are placed. These faculty have agreed to support the SI program in class, promote the program to their students, and work closely with and mentor SI leaders. These faculty do this work voluntarily, and are always consulted about participating in advance – no instructor is *required* to work with an SI Leader; in fact, most *request* it!

### Director, Center for Student Success :

**Monica Bouman**  
138 Bert Walker Hall  
517.796.8411;  
[mbouman@jccmi.edu](mailto:mbouman@jccmi.edu)

### SI Support Specialist:

**Terry Anderson**  
244 James McDivitt Hall  
517.990.1459;  
[AndersoTerrencP@jccmi.edu](mailto:AndersoTerrencP@jccmi.edu)

### Mathematics Discipline Coordinator:

**Steve Tuckey**  
Professor of Mathematics and Statistics  
142 James McDivitt Hall  
517.796.8559; [TuckeySteven@jccmi.edu](mailto:TuckeySteven@jccmi.edu)

The Coordinators provide SI training and materials, coordinate placement of SI leaders, interface with SI faculty, and address discipline-specific questions/problems.

### The Center for Student Success (CSS) Staff

**Marianna Nunez**, [Hillsdale Center](#) Liaison ([nunezmariannn@jccmi.edu](mailto:nunezmariannn@jccmi.edu))  
**Kylie Welling**, [JC @ LISDTECH Center](#) Liaison ([wellingkylier@jccmi.edu](mailto:wellingkylier@jccmi.edu))

Although some SI leaders are CSS Tutors, SI and tutoring are separate jobs. For more details, questions, or issues concerning CSS tutoring, please see **Kim McKeown** ([mckeownkimberls@jccmi.edu](mailto:mckeownkimberls@jccmi.edu)) or your appropriate Center Liaison.

### SI Leaders

An SI leader is a student who has a proven success record in academics (mathematics, in particular), communicates well with peers, and enjoys helping others. SI leaders attend all class sessions, take thorough notes, assist students and the SI faculty during class, and conduct SI sessions outside of regular class times.

## Differentiating between SI Leaders and TAs & Tutors

	<b><i>SI Leader</i></b>	<b><i>TAs</i></b>
<b><i>General Description</i></b>	Model Student	Content Specialist
<b><i>Status in Class</i></b>	Peer	Academic Elite
<b><i>Primary Goal</i></b>	Lead students toward success	Teach subject matter
<b><i>Mode of Interactions</i></b>	Group Participation, collaborative learning	Mostly passive learning in response to instructor prompts
<b><i>Orientation</i></b>	Student-Oriented	Instructor-Oriented
<b><i>Instructional Duties</i></b>	Leads study group, acting as a kernel for participants; Leaves teaching to the instructor	Re-lectures, re-teaches, and presents material (sometimes new) in new/different ways

	<b><i>SI Leaders</i></b>	<b><i>Tutors</i></b>
<b><i>Focus</i></b>	Supports a specific course (and section)	Centers on specific subjects (e.g., Biology or Statistics)
<b><i>Group Size</i></b>	Group Sessions	Usually one-on-one
<b><i>Approval</i></b>	Requires recommendation from faculty and instructor approval	Instructor approval is not mandatory; often instructors are unaware of tutors
<b><i>Experience</i></b>	Demonstrated course competency	Specific course experience is not mandatory
<b><i>Attendance</i></b>	Mandatory class attendance	Class attendance not required
<b><i>Learning Style</i></b>	Collaborative learning	Passive learning
<b><i>Location</i></b>	Help in individual classroom and scheduled session space	Held in CSS and other official tutoring spaces
<b><i>Instructional Mode</i></b>	SI leader prepares in advance and implements session plans that correspond to class content	Students identify their needs and the specifics of their course content
<b><i>Training</i></b>	Extensive and mandatory training each semester and monthly meetings	In-house CRLA training encouraged, some PD opportunities

# Logistical Concerns

## Reserving space and working on campus

### Central Campus ([JXN](#)):

- ✓ SI Leaders on central campus have access to both the library breakout rooms (reserve at the Librarian's desk), as well as unused classroom space (reserved by emailing Terry Anderson; [AndersoTerrencP@jccmi.edu](mailto:AndersoTerrencP@jccmi.edu)) *Note: Classroom space is at a premium!*
- ✓ Please note that it may take up to 24-48 hours to process your request and find an available room. SI Leaders will work with the building staff, faculty members, or security to gain access to locked classrooms. Please be patient, polite, and professional with staff/faculty members. "I am regularly swamped with room-scheduling requests at the start of the term. Please know that while I will do my best to accommodate your request, it may take a day or two before I am able to schedule the event. In terms of access, SI leaders will work with the building staff, faculty members, or security to gain access to locked classroom doors. This will require that you be patient, polite, and professional with many staff members." **Ellen Young – Academic Scheduling**
- ✓ Markers, erasers, and other materials available on reserve at the Library's front desk.

### Jackson North Campus ([JNC](#)):

- ✓ SI Leaders placed at North Campus can connect with **Julie Hand** (Assistant Dean) via email: [jhand@jccmi.edu](mailto:jhand@jccmi.edu).
- ✓ White boards, markers, erasers, and other materials available via Julie

### Clyde LeTarte Center, Hillsdale ([HIL](#)):

- ✓ "I would like SI leaders here at Hillsdale to contact me about room reservations for their sessions. I also want to work with you on using the copy machine to scan your forms that you send to Monica. We also have a shortage of space available, but I will do my best to find a time and place for you to meet." **Marianna Nunez - Hillsdale SI Liaison**
- ✓ White boards, markers, erasers, and other materials available via Sue

### JC @ LISD Tech, Adrian ([LEN](#)):

- ✓ "At JC @ LISD TECH, we have limited space. SI leaders and I will work to find times and spaces that will serve students the best we can with our available resources. I will make badges for SI leaders and introduce them to the office staff so they may access the copy machine and a refrigerator. Staff can assist them if they need to use microwave, as can I. If you have concerns or needs, let me know so I can ensure they are addressed."  
**Kylie Welling – JC @ LISDTECH Center Liaison**
- ✓ White boards, markers, erasers, and other materials are available -- see Kylie

# SUPPLEMENTAL INSTRUCTION (SI) LEADER POSITION DESCRIPTION

**DEPARTMENT:** Center for Student Success  
**POSITION:** SI Leader  
**SUPERVISOR:** SI Program Coordinator/SI Program Discipline Coordinator

## POSITION DESCRIPTION

SI leaders are students who have a proven success record in academics (a specific discipline, in particular), communicate well with peers, and enjoy helping others. SI leaders attend all class sessions, take thorough notes, assist students and the SI faculty during class, and conduct SI sessions outside of regular class times.

## DUTIES AND RESPONSIBILITIES

### SI Leader Qualifications

- An overall GPA of 3.0 or above is preferred.
- A grade of 3.0 or above in the selected course or higher level course is required or faculty referral.
- Strong interpersonal and communication skills are required.
- Current JC Student (*or former JC student within last academic year*).

### Primary Responsibilities

- Attend all class sessions.
- Facilitate two one-hour SI sessions each week.
- Attend monthly meetings with SI supervisors.
- Consistent communication with the SI Faculty throughout the semester.

### Responsibilities in Class

- Take thorough notes of all lectures.
- Model effective in-class behavior.
- Assist students during guided practice activities.
- Advertise SI to your class regularly and encourage students to attend SI.

### Responsibilities for Planning SI Sessions

- Select appropriate times and schedule your SI sessions. Notify your SI Supervisor and Faculty of your session schedule.
- Use the **SI Session Planning Sheet** to guide your preparation for each session. Provide a copy of the Planning Sheet to your SI Faculty before each session.
- Incorporate collaborative learning, critical thinking, and active learning techniques into sessions, whenever possible.
- Use the SI manual, SI Supervisors, your SI Faculty, and other resources to increase the effectiveness of your SI sessions.

### **Responsibilities During SI Sessions**

- Gather attendance data from all SI study sessions.
- Create a comfortable learning environment during SI sessions.
- Ensure students actively participate in the learning process.

### **Responsibilities After SI Sessions**

- Submit attendance data from all SI study sessions to your SI Supervisor.
- Note any thoughts or ideas that the session may have generated on your planning sheet.
- Ensure that the initial survey, any interim feedback surveys, and the end of the course survey are distributed to students.

### **Responsibilities as a Member of the SI Program**

- Attendance at all meetings and training workshops.
- Responsible for regularly checking their JC employee email, and utilizing and teaching others to use the technology appropriate to their course.

### **Expectations of Professionalism**

The behavior of the SI leader has a direct effect on the reputation and success of the SI program.

- *Model appropriate classroom etiquette.* SI leaders are presented as model students. Therefore, SI leaders need to maintain excellent attendance in class. They need to come to class on time, pay attention, take good notes, and participate when the instructor expects it.
- *SI leaders must be dependable.* Be on time to class, trainings, and your SI sessions. If you have to miss or cancel an SI session, make sure you let your SI Supervisor, your SI Faculty member, and the building secretary know in advance. Email your students and let them know. Make sure a notice is posted outside your normal meeting space.
- Follow classroom rules of the SI faculty regarding attire and mobile devices.
- Maintain a professional attitude about matters such as grades and student complaints.
- Maintain confidentiality with regards to any student grades, test results, or personal information.
- Maintain a professional attitude about students, SI Faculty, and what you observe.



# Negotiating Your Role in Class

One of the more difficult parts of the job is interacting with faculty members (often times your former instructors) in a newly collegial and professional way. It feels awkward for *both* parties, and this can often lead to many frustrations and misinterpretations. Just remember:

**Open, regular, gracious communication between SI leader and faculty will *always* solve more problems than it causes!**

**Consider the following:**

- *Recognizing that you are entering a teacher's classroom (their workplace), how can you go about negotiating your role in ways that allow you to help students and provide support for the instructor?*
  
- *How might the instructor's "teaching style" influence or determine his/her **expectations of you** and your role in class?*
  
- *What is the "base line" (i.e., bare minimum) expectation that any faculty member can have of an SI leader placed in their class?*
  
- *What kind of frustrations or misinterpretations might take place as a result of poor communication, or because the SI leader and SI faculty did not negotiate roles?*

# The First Day of Class (non-019) Checklist

- Arrive to class a bit early.
- Remind the instructor that you will need to make a brief presentation about Supplemental Instruction to the class. The “when” is up to him/her, but should already be set.
- Introduce SI to the class, using the SI flier handout.
- Hand out the beginning of the term survey to the students.
- Write your name and the times and locations of the first several SI sessions on the board. (*Optional, if you want to begin sessions immediately; or wait for survey results.*)
- Collect the surveys and use them to determine the best time to schedule your sessions. Be as reasonable as you can during this process. Sessions must begin during the second week of the class, at the latest.
- Once you have scheduled your sessions (and if you reschedule later), notify your SI Supervisor and Faculty of the times and locations of your sessions.

# Introducing SI to the Class

Prepare a short speech to introduce SI to the class.

# Ideal SI Sessions

**The primary goal of the ideal SI session is to *model good student behavior*.**

Good sessions also prompt students to develop organizational frameworks to organize the material for more efficient studying, and through the use of well-designed strategies and techniques, encourage students to work with each other, not just ask the leader questions. Through these behaviors, the students will become independent learners.

*SI sessions that are effective tend to have the following: (\*\*\*) Planning is done by Staff/Faculty for MAT 030 Lab sessions)*

- ✓ **The leader plans the sessions carefully** by deciding what is the most difficult (not necessarily the most important) content and then matches carefully planned strategies to address the difficult content. It often is difficult for leaders to distinguish difficult from important content. Additionally, it is difficult to probe why the content is difficult—what exactly makes it difficult for the novice learner.
- ✓ **The leader organizes the content.** One good definition of SI is “organized peer facilitated study sessions.” Often courses are difficult not because each individual topic is difficult but because there is so much material covered, and novice learners may have difficulty organizing or grouping content in order to learn it effectively. A good leader helps students develop strategies that organize the content and organize the group study time efficiently. Both faculty and supervisors can help the leaders determine what will be the most difficult concepts.
- ✓ **The leader uses effective cognitive strategies related to the discipline.** SI is based on effective learning strategies, such as Informal Quiz, Matrix, One-Minute Papers, Discipline-Specific Writing Strategies, Reciprocal Questioning, Analogies, Vocabulary Clustering Techniques, Advanced Organizers, Paired-Problem Solving, Talk Aloud Procedures, Concept Mapping, Note Processing, or Divide-and-Conquer
- ✓ **The leader pays attention to the group’s interactions.** The students sit in a circle or semi-circle in order to see each other. Students talk to each other and ask each other questions rather than the questions being asked and/or answered by the leader. The session is not a Question-Answer session.
- ✓ **Students are doing most of the processing of the content.** If the leader brings in handouts that are filled out or questions that are already made out, the leader has done

most of the processing rather than the students. In good SI's sessions, the students as a group will predict most of the test questions, for example.

- ✓ Remember: You don't have to reinvent the wheel! There are LOTS of good examples of session activity ideas out there.
  - A quick Google search on a topic or skill, along with the words "activity" or "practice" will yield some tremendous results!
  - Also consider checking out (*and contributing to*) the **SI Leader Activity Repository** (<http://bit.ly/siactivities>) created by JC SI Leaders!
- ✓ Content is broken down into component parts.
- ✓ The learning strategies employed clarify rather than confuse content.
- ✓ The leader uses good wait time and redirects questions.
- ✓ The leader is *not* the SI "instructor" but a leader who facilitates rather than "teaches." (Always use the term "*leader*" to reinforce this).
- ✓ There is (*appropriate*) humor.
- ✓ There is informality. Students feel free to bring food or drinks and free to come and go.
- ✓ Students feel free to come to the sessions even if they have not prepared specific questions ahead of time. Even if students have not prepared the homework (although that is encouraged), students are encouraged to come to the sessions, and leaders have an alternate plan for such occasions.
- ✓ SI leaders and students know each other's names.
- ✓ An agenda is set (including items suggested by group members), and there is closure to the sessions. There is discussion of future group work.
- ✓ There is evidence of a strong, positive relationship between the leader and the SI faculty.
- ✓ Nobody *really* expects a quick fix, though students will often *behave* like they do.

# Collaborative Learning Techniques

**There are many techniques you can use to foster collaboration in your sessions. Here are a few that work consistently, across most disciplines. This list is intended to be a springboard for trying new things in your SI Sessions.**

## ***Group Discussion***

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

A cluster is really just a group that is broken down into smaller groups. To be effective a cluster should be no larger than three or four people. Using clusters can be a powerful way to change the interactions within a group. Breaking people into smaller groups accomplishes several things: 1) It makes them more accountable, 2) It promotes active processing of the material, and 3) It encourages participation by everyone. This may sound great, but it is not as simple as it seems. 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 many students' minds, it would be ideal to simply walk into the session, sit in the back row, not have to say or do anything, and have the SI leader fill their heads with all the information they need to do well in the course. 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.

## ***Turn to a Partner***

Working in pairs is a fast and efficient way of getting everyone involved in the discussion. Remember, whoever does the most of the talking often 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 all students' brains working at the same time.

***Think/Pair/Share***

In Think/Pair/Share group members work on an assignment or project individually and then share their results with a partner. The goal of 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. When doing a Think/Pair/Share, give participants a specific amount of time for the “think” portion. You might even try setting timers to keep things fair and honest.

***Assigned Discussion Leader***

With an Assigned Discussion Leader, one person in the group is asked to present on a topic or review material for the group and lead the discussion for the group. 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 things to prepare for the discussion. This technique works best when everyone, or nearly everyone, in the group is given an assignment about which they are to be the ‘expert.’

***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 whole group. In general, individual presentations should be used sparingly.

***Teamwork/Competition/Game***

After a group has become familiar and a dynamic of trust has been established, team or competitive activities/games can be fun ways to engage all students. This technique works best when there are multiple people on a team, the teams are friendly and well-balanced, and the material is presented in a meaningful way (e.g., a quiz like those from the class or a “Jeopardy!” game format). However, consider the two main issues with this technique in advance: preparation of materials can be time-consuming, and competition sometimes can carry negative connotations for students.

# General SI Sessions

## Structure in SI Sessions

At the beginning of the semester, SI leaders must provide structure to the SI sessions. Remember, this is not tutoring; don't expect to arrive at the SI sessions with the intention of just "answering questions." You need to be prepared to lead a study session in the absence of specific student questions. Filling out your Planning Sheet ahead of time will help you be prepared. Although the need for preparation cannot be stressed enough, it is equally important that you are flexible and ready to respond to student needs. (\*\*\*)Planning is done by Staff/Faculty for MAT 030 Lab sessions.)

## Syllabus Review

It is a good idea to review the syllabus with the students early in the semester. Good things to emphasize:

- Contact information for the instructor. Many students do not realize how easily they can get in contact with their instructors. Moreover, most do not keep their contact information handy in case the need arises.
- List of graded work. Announce to students that you will not do any problems during SI that are to be handed in and graded by the teacher. Instead, similar problems will be used to illustrate the techniques needed to solve these problems.
- Date of the first exam. Tell students that part of your job is to provide help so they will do well on their exams. The best way for that to happen is for them to attend class and SI regularly, but you can also have a special 'Exam Review' SI session prior to the exam.
- Instructor's policy on documenting work. This may be in the syllabus, but more likely it is something that you will pick up on during class. Most instructors will not accept an answer to a problem all by itself. Students may be required to show their work, or write in complete sentences, in order to get credit for the problem. In some cases, students must show very specific steps as demonstrated by the instructor during class. Know your instructor's policy in this area, and announce to students that whenever problems are worked during SI, by the students or by you, the group's expectation will be that the solution will be shown in the way it would need to be done for the instructor on a graded assignment or test.



## MyMathLab (MML) & MyStatLab (MSL) for SI Leaders

Any SI leader working with an MML- or MSL-supported course can have a “student access kit” of their own, with which they can enroll in the appropriate MyLab course (we’ll use MML generically here). This will help you anticipate types of problems to expect and difficulties that students might have. You may request access to the MML course in which you are placed, but granting this access is at the discretion of the SI faculty member. (*Some faculty members prefer this, while others do not.*) Any SI leader who wishes to have MML access will be supplied with an access code, even if their SI faculty member does not require the use of the platform. MML can be a terrific *source* of materials, extra practice problems, and ancillary materials (e.g., appendices from the text, and even entire textbooks).

During your first few SI sessions, expect students to have lots of questions about MML. If they are having trouble with using it at home or on their personal device, remind them to use MML technical support (upper right corner after logging in). If they are having trouble using MML later, it would be great for you to try to bring a laptop to an SI session, or convene around a nearby computer. Students could share concerns and try to answer each others’ questions about the product and the course setup.

## Strategies for Running SI Sessions

Math SI sessions focus on getting students to work on problems. You should go into every SI session with problems already chosen – don’t rely on student questions. You know what is most difficult in the course; focus on those areas. Always be sure that it is primarily the students who are doing the problems during SI, not the SI leader. Students can work problems individually, in pairs or in groups. Students should get used to presenting problem solutions to the SI group. The next several pages describe specific techniques and strategies that you may want to use during your SI sessions.

SI sessions in other subjects and disciplines may take on very different characteristics, due to the particular mix of “skills” and “concepts” being addressed in the course. For particularly skill-heavy subjects, be prepared with many examples of various skill levels. For particularly concept-heavy subjects, be prepared to address the concept in multiple ways (different approaches) and be sure to keep yourself *within the limits* of your SI faculty member’s treatment of the concept. (*Sometimes, you might know a different/better/shorter way of solving a problem or negotiating a task, but it might not be the way the instructor wants students to practice the concept or skill.* **Remember: There are often good, but hidden, reasons for the instructional choices made in curriculum design.**)

# Visual Organizers

- 1. Matrix:** Particularly useful for comparing/contrasting concepts that are easily confused with one another.

*Example: (you might give students the first two columns, but leave the third and fourth columns blank to begin with)*

Concept	Example	Important points	Results
Algebraic Expression		<ul style="list-style-type: none"> <li>Does not contain an equal sign</li> <li>Can be simplified</li> <li>Can't find the value of x</li> </ul>	Simplify:
Algebraic Equation		<ul style="list-style-type: none"> <li>Contains an equal sign</li> <li>Can be solved</li> <li>The value of x can be found</li> </ul>	Solve:

*Example: (you might give students the first two columns, but leave the third and fourth columns blank to begin with)*

Concept	Example	Important Points	Results
Associative Property		<ul style="list-style-type: none"> <li>The only operation in the problem is multiplication.</li> <li>The multiplier only gets used once in the solution.</li> </ul>	
Distributive Property		<ul style="list-style-type: none"> <li>The number outside the parentheses is a multiplier</li> <li>The values inside the parentheses are added or subtracted.</li> <li>The multiplier will be used twice in the solution</li> </ul>	

- 2. Diagram/Flow Chart:** Useful when there are decisions to make about what process to follow in the solution of a problem.

*Provide an example of a flow chart for classifying a type of equation, or type of variable.*

*You might give students this graphic organizer and then proceed to have students follow it step by step to solve several problems you have selected.*

# Problem Solving SI Sessions

Problem solving topics ('story problems') 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 SI sessions, attendees help each other by actively exchanging strategies for problem-solving. Students need to become part of a collaborative team, attaching a common problem and solution together. When students get stuck, the manner in which SI leaders handle this situation determines whether the student gains an understanding of the process or merely gets a right answer.

When the focus is on problem-solving, this is one time when it may be necessary for the SI leader to take center stage for a while. The SI leader may write out the steps to one or more problems, always being sure to verbalize and write out a narrative description of each step in the solution process. Always emphasize the WHY more than the WHAT! Once the SI leader has done an example or two, then it is important for students to work in pairs or small groups to try a couple of similar problems.

Get students used to a problem solving process:

1. Organize the information and define variables. This may be done by:
  - a. Using a diagram
  - b. Making a chart
  - c. Writing a list
2. Write an equation that relates your variables.
  - a. You might need to call on a 'standard' formula such as  $A = LW$  or  $D = rt$
  - b. You might need to use logic (if Joe and Jack both have books and know the total number of books, then I have to add Joe's to Jack's to get the total).
3. Solve the equation.
4. Check to see that the solution makes sense and answers the original question.

# The Informal Quiz

This activity is a good way to get students working problems. Unlike a real in-class quiz, this paper is never turned in or seen by a teacher, SI leader, or other students. Rather, it consists of questions chosen by the SI leader to help students' comprehension, retention and problem-solving abilities.

1. Try to ask a few short-answer questions (e.g., What is the first step you need to do in order to add fractions? Which comes first in the order of operations, multiplication or division? What's the difference between an ordinal and a nominal variable? In order to use the quadratic formula, what form must your equation be in?)
2. Also include 3-5 problems to solve. Remember that you want to allow time for students to work on the problems alone or with a partner, and also time for problems to be discussed. Better to ask a few good questions than to ask lots of questions that you don't have time to process.
3. Once students have spent some time working on the quiz, process it as a group. Go through the short-answer questions and get a group consensus on the answer. Try to encourage weaker students to volunteer answers to these; they may be more confident than they will be later when actually solving problems. Then try to get students to put their math problem solutions on the board. Tips for getting participation:
  - a. Don't force the group to take the questions in order. Just take volunteers for any question anyone is willing to do.
  - b. Let 2 or 3 students write their solutions on the board at one time – sometimes students don't want to be up there all alone.
  - c. If someone is very reticent, encourage him or her to at least help you out by writing the problem up on the board. The student might even be willing to serve as a 'scribe' and write up the steps as the group suggests them.

*Informal quizzes can be made quickly (MML is a great source for material), easily disseminated, and the centerpiece of a session!*

### **Sample: Informal Quiz on Fraction Addition and Subtraction**

1. You cannot add or subtract fractions unless they have a \_\_\_\_\_.
2.
  - a. When you are adding, what do you do to the numerators?
  - b. When you are adding, what do you do to the denominators?
3. To get an equivalent fraction, you can (add, subtract, multiply, divide) the numerator and denominator by the same value. [Circle all correct answers]
4. Explain why you have to do the same thing (see #2) to the numerator and denominator in order to get an equivalent fraction.

# Lecture Review/Muddiest Point

This is a good technique to use to start off an SI session, particularly when there has been a large quantity of material presented in class since the last SI session.

1. Start by having students go through their notes from a given class period or perhaps two class periods, making a list of the main math techniques that were covered. You might pick out the main techniques yourself ahead of time and tell them how many you wrote down. One of the problems some math students have is that they see every single problem as being new or different from anything else they have seen. By listing 'main ideas' you can help them make the connections.
2. As a group, share lists of main points and agree on one common list to be used by the entire group. This might involve guiding the class to agree that certain items offered for consideration could really be grouped together under one main topic. For example, if students have been working on geometry, you might encourage them to think of the main topics as perimeter, area, volume, and surface area (rather than squares, rectangles, triangles, trapezoids, cones, spheres, circles, prisms, pyramids, etc.)
3. Ask students to arrange the topics in the list in order from easiest to hardest. Get a feel for which items are rated as most difficult by the students.
4. Spend the rest of the session having students practice problems in the categories ranked as the most difficult. Students may work in pairs to do this, and each pair may then volunteer to present one of their problem solutions to the group.

# Opening the SI Session

- 1) What do you do if students come to the first SI session and seem upset when you explain that you will not “tutor” them?
- 2) How do you explain why participants need to sign in each time they attend?
- 3) If a student comes in halfway through an SI session, do you ask him/her to sign in?
- 4) What do you do if you only have one student show up for a session?
- 5) What do you do when no one shows up for a session?



# Closing the SI Session

## 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 before a major exam: right before the exam or several days ahead of the exam?
  
  
  
  
  
  
  
  
  
  
- 5) How would an SI session that takes place before a major exam differ from a regular SI session?
  
  
  
  
  
  
  
  
  
  
- 6) What would you do if you typically have six to nine students show up for a session and have twenty-five show up right before the exam?

## Closure Techniques

- **Informal Quiz:** When time permits, the informal quiz will help put all of the important ideas together.
- **Predict Test Questions:** Divide students into groups of two or three. Have them write a test question for a specific topic, ensuring all major topics have been covered. Ask students to write their questions on the board for discussion. This technique requires more time but the benefit presented.
- **Summarize the Procedure/Steps:** Sometimes it is more important to go over how an answer was arrived at, rather than reviewing the answer itself. Remember to give time to the process of learning.
- **Round Robin:** As a variation on the summarizing technique, have each member of the session provide one topic that was covered/practiced, and one topic that they recognize they need to study/practice more.
- **Timing Device/Alarm:** While simple, having a timing device (a stopwatch, a mobile device, or <http://www.online-stopwatch.com/>) keep you on track can be a helpful way to manage session time.

# SI Session Challenges

## What would *YOU* do in these situations?

- 1) When one person dominates the conversation of the group.
- 2) When students are having side conversations.
- 3) When all of the interactions in the SI sessions are between you and the students. There are no student-to-student interactions.
- 4) Every time you ask a question over the course content, the group becomes very quiet.
- 5) You have one student in the session that rarely talks.
- 6) If a student becomes confrontational and suggests that the sessions are a waste of time.
- 7) Students who typically do not show up for sessions are being shunned by those who do.

## Helpful Hints

- Running a successful session requires careful planning. Never go into a session intending to ‘play it by ear’ or ‘answer questions’.
- Waiting for students to volunteer well-developed answers takes time. If you are uncomfortable waiting the 30 seconds, join the students in looking through their notes or text.
- Protect students from interruptions, laughter, or from those with louder voices.
- Refer to the syllabus regularly. Check that students understand the requirements and the dates of tests and other major assignments.
- **It is *more effective* to model how successful students learn than it is to tell students what they need to know.**
- Personally invite students to sessions. **Don’t be insulted** if they offer excuses for not coming -- *remember to be generous in interpreting student behavior!*
- Maintain eye contact.
- 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.
- Make sure to follow the guidelines set forth by your particular SI faculty! Different instructors may prefer one process to another (factoring by grouping or by guess and check?) or they may like to see work shown in a particular way (horizontal or vertical?). You should be able to pick these differences up in class, and reflect them in your sessions.

# Attendance Strategies

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

- Announce and promote SI sessions in class.
  - Distribute reminder handouts throughout the term.
  - Provide regular verbal encouragement to attend SI.
  - Write the SI times and locations on the board during each class.
- Sit in a different seat *each class* session to help students get acquainted with you.
- Email students in the class each week with a “game plan” of topics to be covered.
- Report past success data in various forms.
- Be approachable, patient, and genuinely interested in student’ success.
- Handout anonymous quotations from students on how SI has helped/is helping.
- Report improvement on tests scores.
- Encourage students who attend SI to “spread the word” if they find SI helpful.
- Make sure each SI session is well planned, well organized, and useful.
- Change SI times to accommodate the greatest number of students. Resurvey the class if necessary.

**What other strategies could you consider for improving session attendance?**

# The SI Leader and the Student

What would *YOU* do in these situations?

- 1) A student asks to copy your lecture notes because her mom is in the hospital.
- 2) A student asks you for the handouts you have prepared for the SI session but says he can't stay for the actual SI session.
- 3) A student repeatedly arrives late for the SI sessions.
- 4) A student tells you 'I got a 90 on my last test, so I don't need to come to SI anymore'.
- 5) A student confides personal problems (this could range from registration difficulties to marital abuse problems).
- 6) A student is attempting to go beyond the actual course content.
- 7) A student tells you that they think they might have a learning disability.
- 8) One of the students tells you that you are a better teacher than the course instructor.
- 9) Some students ask you to skip class with them and tutor them for an upcoming test.

Do...	Don't...
<ul style="list-style-type: none"> <li>● Say 'yes' to students' requests whenever it is reasonably possible to do so.</li> <li>● Remember that the goal of SI is more than simply helping students score well on examinations. Many things can contribute to attrition.</li> <li>● 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 students to those persons who are recognized experts with the problem the student describes.</li> <li>● Attempt to treat all students as you would treat a friend.</li> <li>● Provide straightforward, truthful responses.</li> </ul>	<ul style="list-style-type: none"> <li>● Allow yourself to be drawn into an argument with students. Even if they clearly wrong, asking for it, or start it first.</li> <li>● Demand that students have to defend themselves to you. For instance, if they miss a session, act concerned, but don't demand an explanation.</li> <li>● Say anything that would make you sound like a parent, teacher, police officer, judge, or authority of any kind.</li> <li>● Feel obligated to fix problems that students create and can solve for themselves. Just remember to be diplomatic when you must decline an invitation to get involved.</li> </ul>

# The SI Leader and the Professor

## What would *YOU* do in these situations?

- 1) Your SI faculty asks you to do something the SI supervisor has asked you not to do (for example: lecture for him or her during a time when they will be absent).
- 2) Your SI faculty offers to show you some of the questions from an upcoming exam.
- 3) Your SI faculty asks that you not pass out old exams, but a student brings one to the SI session.
- 4) Your SI faculty asks you to help distribute handouts in class.
- 5) Your SI faculty asks if they can visit one of your SI sessions.
- 6) Your SI faculty asks for feedback about students' content-related difficulties.
- 7) Your SI faculty asks you to grade a quiz during class while he/she finishes a lecture.
- 8) Your SI faculty asks you to come to class and take an exam with all the students.



Do...	Don't...
<ul style="list-style-type: none"> <li>● Treat the SI faculty as your ally, never your adversary.</li> <li>● Meet with your SI faculty during their office hours to clear up any uncertainties you may have regarding material discussed in the SI or in the lectures.</li> <li>● Provide your SI faculty with feedback about how the sessions are going. Although it is not recommended that faculty attend SI sessions, most SI programs will not self-destruct if the faculty elect to visit one or two sessions.</li> <li>● Show your SI faculty the handouts you plan to share with the students in SI. He or she can help make your handouts more appropriate to the course material.</li> <li>● Be helpful to your SI faculty whenever possible. You do not have to assume the role of a TA, but offer to assist the instructor in tasks such as passing out materials or working with individuals in class.</li> </ul>	<ul style="list-style-type: none"> <li>● Criticize the professor during an SI session. Students will report this to the professor and it is not helpful. Students are responsible for their academic performance, regardless of the professor's "style."</li> <li>● Grade papers (homework or tests) or be involved in constructing assessment items.</li> <li>● Set yourself up as a teacher. Your purpose is to facilitate the learning of the material, not to do or evaluate the teaching.</li> <li>● Hesitate to refer your SI faculty to your SI supervisor if he or she requests anything about which you are uncertain or with which you feel uncomfortable.</li> <li>● Answer questions the instructor poses to the class or involve yourself in the class discussion unless the instructor <i>directly invites</i> you to do so.</li> </ul>

# Fall 2016 SI Leader Meeting Dates

## Location:

*Locations will be announced well in advance and set up based on the availability of SI Leaders. Typically, we try to convene together as a single group, and SI Leaders from our Adrian or Hillsdale center locations will be asked to carpool (with mileage reimbursed for the driver). Typically, we meet in large, accessible spaces that allow us to talk collectively and work on training issues (e.g., BW 209, HLC 101, WA 210).*

## Dates (all on Fridays):

17 February      17 March      21 April

All meetings will be held in the Jets Hangar Classroom, 107

## Meeting Times:\*

9:00 – 11:00 a.m.      1:00 – 3:00 p.m.

*\*Choose one of these offered times for each Friday meeting*

**Meetings are required.** Reminders will be sent via email & SMS. Agendas will be provided electronically, and *some homework* may be required before the meetings.

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## 6<sup>th</sup> Annual SI/Tutor Conference at Jackson College: ***Attend for free, Get paid to work or present!***

### Location:

*Jackson College Central Campus  
(New Bert Walker Convention Rooms)*

### When:

*Saturday, 22 April, 2017; 8 AM – 4 PM*

### Who, What, & Why:

*SI & Tutoring professionals, SI Leaders & Tutors from across the region, presenting, learning and sharing ideas in a friendly, academic-conference environment!*

***JC Tutors and SI Leaders are expected to attend, if not present and/or work at the event.***