

Chapter 2

Student–Student Interaction

Abstract We humans are social animals. We learn best and enjoy learning most when we learn with and for others. The research-supported benefits of students working together include increased higher order thinking, greater engagement, higher self esteem and higher test scores. Thus, student–student interaction, a.k.a., peer interaction, collaborative learning, and cooperative learning, should be a regular and significant aspect of students’ learning experiences.

Keywords Student–Student interaction • Cooperative learning • Collaborative learning • Peer interaction • Collaborative skills

Background 1—Making a Learning Space

Something as simple as the furniture arrangement can impact the success of group activities (Jacobs et al. 2002). Students need to be seated near each other in order to converse in quiet voices and to be able to see what group mates are doing. In fact, sometimes, teachers can tell from across the room that a group isn’t functioning well, because the members have not made the effort to sit near each other.

Strategy 1—Arrange the Room to Facilitate Peer Interaction

Classroom furniture varies widely as do the shapes and sizes of classrooms. Regardless, the general principle is to encourage students to sit as close together as is comfortable and possible. Three ways we teachers can help to achieve this are: (a) keep groups small, for example, it’s much easier for two people to sit close together than for a group of six to do so; (b) explain our reasons for asking students to sit close together or ask them to guess our reasons; (c) be persistent, as most new behaviors take some getting used to; for instance, sometimes George has to ask a

few reluctant students to please do him a favor and sit within easy hearing distance to their partners.

This strategy links to Chap. 9 on Learning Climate, because the way the classroom is arranged sends a message about the classroom atmosphere.

Background 2—The Size of Student Groups

The last strategy talked about groups of two. Indeed, pairs probably make the best size for groups, at least in the beginning. Pairs require the least amount of collaborative skills, because only two people need to be managed. Also, each student's activity level reaches its peak in groups of two, and active students are a hallmark of SCL.

Certainly, large groups have advantages, including fewer groups for us teachers to monitor and more group members to do tasks and contribute ideas and information. However, most of the time, smaller groups are probably better. Here is what one teacher whom George knows said about the problems of large groups of six or more:

My main suggestion is not to give into the impulse to make larger groups. I instinctively once suggested that students form large groups of 6 because they said they felt so “crammed” when there were too many smaller groups. **Don’t do it!** That is WAY too many people in one group.

Strategy 2—Start with Pairs

Introduce students to group activities by starting with pair activities. For a simple pair activity, students can take turns to do tasks. One does the first task, thinking aloud as they do it. Their partner acts as their coach. Roles reverse for the next task.

This strategy links to Chap. 7 on Thinking Skills, because each pair member can coach their partner as they take turns to think aloud.

Background 3—Larger Groups

While groups of two offer many advantages, larger groups also have advantages. For example, if “two heads are better than one,” four heads may sometimes be better than two. Plus, if “many hands make light the work,” compared to a twosome, a

foursome brings four more hands (and two more brains) to the task. Another advantage of foursomes is that they provide a way to extend the student–student interaction. For example, after students have worked in pairs to do some math problems, instead of one pair or one pair member sharing with the whole class, pairs can share with the other pair in their foursome, and, perhaps learn even more approaches to solving the problems.

Strategy 3—Combine Pairs into Foursomes

Twosomes can sometimes work alone and at other times combine with another pair, as seen in the cooperative learning technique, Write-Pair-Square, which works as follows. Students first work alone to Write their ideas on a task/problem. Next, students pair with a group mate and discuss what each wrote. Finally, students form a Square, that is, each student takes a turn to discuss with the other twosome about the dialog they had with their original partner. The foursome then further discusses.

This strategy links to Chap. 6 on Diversity, because a group of four is likely to have a more diverse range of perspectives than a group of two.

Background 4—Cooperative Learning

Cooperative learning, a.k.a. collaborative learning, is built on principles designed to promote effective group functioning and, thereby enrich the learning experience by building academic and social skills (Johnson et al. 2013). (Note: You may find different sets of principles and different names for principles in different resources on cooperative/collaborative learning.) The principle of *equal opportunity to participate* encourages groups to allow all group members space to play important roles in the group, whereas the principle of *individual accountability* encourages each group member to do their fair share in the group.

These two principles go hand-in-hand. The cooperative learning principles of individual accountability and equal opportunity to participate are most productive when group members feel they have common goals. For example, a group's goals could be that everyone in the group needs to understand the group's answer (or the various answers the group discussed) and be able to explain that answer(s) and how the group developed it (them).

Strategy 4—Group Members Have Numbers

To check if everyone has understood the group’s work, individual group members can be asked at random to give and explain their group’s answer(s). To facilitate random selection of who will represent their group, the members of each group can have a number based on where they are seated in the group. Such a standardized numbering system saves time and makes it easy for teachers to know which students have which numbers. [Just to be clear, students are still called by their names also.]

This strategy links to Chap. 10 on Motivation, because everyone will have an equal chance to share their group’s work with others.

Background 5—Collaborative Skills

Students’ lack of collaborative skills or unwillingness to use such skills is one reason why group activities may not achieve the promise they seem to offer. Educators have compiled long lists of collaborative skills including:

- checking that group mates understand
- disagreeing politely
- seeking clarification
- asking for reasons
- praising and thanking others, and
- asking for suggestions

Even teenage and adult students who know these skills may fail to use them. By spending just a few minutes to emphasize collaborative skills, we can enhance the probability that group activities will succeed.

Strategy 5—Teach Collaborative Skills

Teachers can choose a collaborative skill that students need to use more or ask students to nominate one. Next, the class discusses the importance of the skill and a few phrases used to deploy the skill. For instance, the simple but too seldom used skill of showing appreciation to others for their contributions to the group can be enacted via such phrases as, “Thanks a lot for ...,” “I really appreciate that you ...,” and “I owe you one for ...”. Such discussions can be held just before a group activity, and students can choose a partner in their group and, during the group activity, students can count how many times their partner thanks someone.

At the end of the activity or even better in the middle of the activity, students report to their group on how many times their partner thanked others. The class sticks with one skill, such as thanking others, for a while until it seems to have become a fairly natural part of how groups interact (Johnson et al. 2013).

This strategy links to Chap. 3 on Learner Autonomy, because collaborative skills help groups function more smoothly on their own.

Background 6—Believing in the Power of Groups

Yes, we humans are social animals. We enjoy doing things with others. But, no, group activities do not always succeed, even when the group in question is a group of teachers. Sometimes, we would have been better off working alone. To encourage students to persevere in striving to make groups work, we need to help them see a vision of what groups can achieve (Kohn 1992). Fortunately, we can find lots of examples, both second hand and first hand, of successful groups. Second hand examples can be seen in the media, such as sports teams and music groups. As to first hand examples of successful groups, we can refer to our and students' experience in families, with friends, in clubs, on projects, or in sports.

Strategy 6—Encourage Students to Remember Successful Groups

Teachers start by telling students about a successful group they were or are in, including analysis of why the group succeeded. For example, the group might have succeeded because everyone did their fair share or because weaker members were encouraged and supported, or because all group members shared a common identity, such as sports teams share a common identity via their team names, colors, and mascots. Then, students share their own successes in working in groups and why they think the group was successful. Finally, the class considers how the lessons learned from past group successes can be used to promote success among their own classroom groups.

This strategy links to Chap. 1, Teachers and Students as Co-Learners, because teachers and students share their own experiences and what they took from those experiences.

Background 7—Individual Work

Yes, lots of research heralds the benefits of cooperative learning. However, cooperating does not mean always working together. Students can sometimes work alone even when they are part of a group, and, in the final analysis, perhaps a group's most important goal lies not in the quality of the group's products, such as a presentation, but in the strengthening of each individual member of their group.

Strategy 7—Do Individual Assessment

After students have worked in a group, and after they have learned from and with each other, it may often be best for them to do individual assessments, that is, students learn in a group, but they take assessments which measure individuals' progress. For instance, after doing a project together, each group member works alone to reflect on what they learned and present their reflections.

This strategy links to Chap. 8, Alternative Assessment, because someone other than the teacher is participating in assessment.

Background 8—Sponge Activities

One issue that arises when groups are used is what to do when one group finishes before others. Of course, just because a group seems to have finished does not mean that they really have. For instance, perhaps they have finished a set of math problems with all the answers correct, but are all the group members capable of doing similar problems on their own? If the answer is No, the group has not finished the task, because the key goal of group activities involves strengthening the abilities and attitudes of each of the group members.

Assuming that the group has indeed finished the task, instead of students doing “busy work” until the other groups finish, group members can do what are known as “sponge activities.” They are called sponge activities, because they usefully soak up time, just as sponges soak up water. Many sponge activities can be found in the literature on cooperative learning. Here is a list of sponge activities that could fit a student centered approach.

1. Check your own work.
2. Check others' work—ask members of other groups to explain how they arrived at their answers.
3. Think about what else you would like to know on the topic.

4. Make a goal for future learning on this topic.
5. Look for those in your group or in another group who are having trouble.
6. Do Exchange-A-Question (see Chap. 7).
7. Do journaling (see Chap. 1).
8. Read, for instance, continue reading a novel.
9. Imagine that you are going to explain what you did to your grandparents or to a younger student (to encourage clear explanations with lots of background).
10. Do a drawing or graphic organizer to illustrate what you studied or what you have done.
11. Make your own puzzle or riddle based on what you are studying.
12. Wait patiently.
13. Think about how to do the task better.
14. Think about your own and your partner's use of a particular collaborative skill or the overall functioning of your group.
15. Use mime to create a kinesthetic symbol to represent a key idea.
16. Write a poem or song to represent a key idea.
17. Create a joke based on a key idea you studied, such as a knock-knock joke.
18. Do teambuilding: learn something new about your partner(s).
19. Do teambuilding: tell your partner a strength of theirs that helped your group.
20. Design your own sponge activity.

Strategy 8—Ask Early Finishers to Help Others

To highlight one of the sponge ideas that especially fits with this chapter's SCL element of Student-Student Interaction, if a group has finished before others, they can divide up and circulate to other groups to provide assistance. Students need to understand that assistance means guiding others from the side, not doing for others.

This strategy links to Chap. 3, Learner Autonomy, because students are deciding how to use their time.

Your Turn

Please reflect on the following questions.

1. Have you seen others, such as your own teachers or your colleagues, using any of the SCL strategies mentioned in this chapter? If so, what was your impression?
2. Have you used any of the strategies discussed in this chapter? If so, how did it go?

3. Are you keen to try any of the strategies in this chapter that you haven't yet tried? If so, how do you think your students might react? Would you modify any of the strategies in any way?
4. Do you have any colleagues who might like to discuss this chapter with you?
5. How else do you or could you promote the idea of Student–Student Interaction?

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<http://www.springer.com/978-3-319-25710-5>

Simple, Powerful Strategies for Student Centered
Learning

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2016, XVII, 95 p., Softcover

ISBN: 978-3-319-25710-5