



Using *Jigsaw* in the College Classroom

Susan Ledlow, Center for Learning and Teaching Excellence

Jigsaw was originally developed by Elliot Aronson (1978). It has since been adapted by a number of teachers at all levels in a variety of ways. Essentially, it is a cooperative learning lesson design that takes the place of a lecture. Each student within a team has a piece of the information to be learned by all students, and each student is responsible for teaching their section to the other students on the team. When all the pieces are put together, the students should have the whole picture - hence the name, *Jigsaw*. This is one of my favorite cooperative learning strategies. I think it's a great way to cover narrative in my classes. I also have found that when students are teaching each other, they come to understand the material in a way that's far deeper than when they listen to me explain it, or when they simply discuss it.

I use teams of four in my class and students are numbered off within teams, so the following steps reflect that. If you use teams of three, you would have to divide your material differently. The basic steps are as follows:

1. Divide the material needed to cover a topic into four roughly equal parts.

In upper division or graduate classes, you might assign four different articles. In introductory level classes you might need to assign four different sections of a chapter or four abridged articles. Finding four equal parts that can stand alone is often a lot tougher than it seems.

2. Assign a different subtopic to each team member.

You make the assignment. For example: all #1's will read the article by Johnson Johnson, & Smith; all the #2's will read the article by Kagan; all the #3's will read the article by Millis; and all the #4's will read the article by Davidson.

3. Develop and assign homework questions or essays over the material. These should probably be turned in for points or a grade in undergraduate classes.

Jigsaw falls apart if students are not prepared. Assigning questions, reading logs, study guides or reaction papers helps to ensure preparation. You may write different questions for each article or you may simply ask for a summary. In small classes some faculty just check off students' work as they come in. Other faculty grade and/or respond to the assignment.

4. Put students in expert groups and give them instructions.

When students arrive in class, they turn in their homework and then meet in **expert groups**. This means that all the #1's meet together, all the #2's meet together, etc. If you have a large class, you will have to have more than one expert group for each article: you *don't* want eight people in one expert group. **Give the expert groups specific instructions on their task.** If you had simply asked your students to read a chapter and write a summary for homework, you might give them instructions like these:

1. Introduce yourselves to the other expert group members. Your task today is to plan a tutorial on your article that each of you will use when you return to your home teams.

2. Discuss the reading with the group, coming to consensus on the main points you will teach your teammates. Make sure everyone participates.
3. Try to think of at least two examples from your personal experiences to illustrate the main point(s).
4. Plan how you will check your respective teammates for understanding without asking, "Do you understand?"
5. Thank your expert group members for their help.

If you had them answer focus questions for homework, your instructions might look like this:

1. Introduce yourselves.
2. Take turns leading the discussion to compare your responses to the questions. Try to come to consensus on the most important points. If there are things you can't agree on, make note of them to share with your teammates. Also note any interesting or useful examples from any of your expert group members. Check for understanding before moving on to the next question.
3. Plan your strategy for teaching your teammates in the limited amount of time that you will have.
4. Thank your expert group members for their help.

Other ideas you could add to the instructions include:

- Reminders about social and cooperative skills: "The **cooperative** expectation for this assignment is that all group members will participate fairly equally in the discussion. It is each person's responsibility to ask for the opinions and ideas of quieter group members. The **individual accountability** expectation is that any group member, if randomly called upon, could summarize the group discussion."
- Instructions to promote critical thinking: "Try to come to any criticisms of the author's work - is it biased, unsubstantiated, overly narrow in applicability, etc." or "How might this article call in to question Smith's theory that we discussed last week?"

5. When expert group time is up, have experts return to their teams and teach.

When students return to their home teams, it helps to have each team teach the articles in the same order. This way, if a team's member #2 is absent, the remaining team members can disperse and sit with other teams when it's time for the #2's to teach. If they all teach on their own schedule, you can't compensate for absences.

6. Provide a team synthesis activity.

Try to design an activity which will *synthesize* the information that students learned in the four articles. They might analyze a case, write a team essay or position paper or solve a problem. Without a synthesis activity, it's more likely that students will remember the information from their own articles, but not from the articles that were covered by their teammates.

7. Assess student learning and provide closure.

As with any classroom activity, it's important to debrief when the *Jigsaw* is complete (of course, if your *Jigsaw* takes several class periods, you'll have multiple debriefings). Call randomly on students to present what their teams learned. Depending upon the synthesis activity that you designed for them, they may be reading a memo, reporting a decision, criticizing a theory, or demonstrating the solution to a problem.

As to more formal assessments (okay, **grades**), *Jigsaw*, like most well-designed cooperative learning activities, lends it self to a variety of both individual and team assessments. Those who use group grades can grade the team synthesis activity. For a short *Jigsaw*, this can be as simple as a brief team essay or short solution to a problem. If *Jigsaw* is part of a larger project, a complex team product may constitute the synthesis. Individuals may be assessed for their preparation before coming to class, for the quality of the tutorial they prepare for their teammates, or through some form of peer evaluation. Very often however, I don't grade Jigsaws at all; I tell students that they are just one of many things that they will be doing in class, like listening to short lectures or participating in full class case discussions. Participating actively helps them be better prepared for exams and individual writing assignments – and this is often motivation enough.

Variations

There are many variations on Jigsaw. For example, you might:

- Assign only two articles and have students work with a partner on their team to teach the other partners.
- Have students read the same material but react to it from a different perspective. After reading an article about a program for teaching English as a second language, Student #1 would write a critique from the perspective of a teacher, Student #2 would write a critique from the perspective of an administrator, Student #3 would write a critique from the perspective of a parent, and Student #4 would write a critique from the perspective of an ESL student.
- *Jigsaw* a video and ask students within a team to take notes on different parts or to watch for different things.

In addition to Aronson's original book, *the Jigsaw Classroom* (1978), Johnson, Johnson, & Smith (1991) and Kagan (1992) offer many suggestions, examples, and variations for implementation. As with any cooperative learning activity, make sure that you build in positive interdependence and individual accountability when you modify the basic design.

References

- Aronson, E., Blaney, N., Stephin, C., Sikes, J. & Snapp, M. (1978). *The jigsaw classroom*. Beverly Hills, CA: Sage Publishing Company.
- Johnson, D. W., R. T. Johnson, and K. A. Smith. (1991). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book Company.
- Kagan, S. (1992). *Cooperative learning*. San Juan Capistrano, CA: Kagan Cooperative Learning, Inc.