

ENCOURAGING STUDENTS TO READ THE TEXTS: THE JIGSAW METHOD

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"The information in the book will be on the exam" is probably the most common technique used to inspire college history students to read assigned texts. Unfortunately, this vague threat does not always encourage students to read and analyze the assignment carefully. College history students are much more likely to read assigned monographs, chapters, or articles if the instructor provides a specific purpose for the assignment. The jigsaw method is a teaching and learning strategy with a specific purpose that can promote comprehension and retention as well as encourage in-depth scrutiny of assigned readings. Additionally, students enjoy the peer interaction involved in jigsaw activities and instructors appreciate lessons in which students must take the initiative.

The jigsaw method was first introduced to elementary and secondary teachers in the late 1970s as a method that could produce academic and social-emotional gains.¹ The method was one of many cooperative learning methods developed in response to the research of David Johnson, Roger Johnson, and Robert Slavin. Johnson, Johnson, Slavin, and many other researchers conducted numerous empirical studies in school settings, finding that cooperative learning enhanced student achievement in all grade levels, all subjects, and among all type of students. Many additional outcomes have been documented, including improvements in self-esteem, group relationships, attitudes toward school, and acceptance of and ability to work with others.² While not as widely researched in the college classroom, positive results have been reported in biology, chemistry, geology, statistics, sociology, and psychology classes.³

¹Elliot Aronson, Nancy Blaney, Cookie Stephan, Jev Sikes, and Matthew Snapp, *The Jigsaw Classroom* (Beverly Hills: Sage Publications, 1978); Elliot Aronson and Shelley Patnoe, *The Jigsaw Classroom*, second edition (New York: Addison Wesley Educational Publishers, Inc., 1997).

²Arthur K. Ellis, *Research on Educational Innovations*, second edition (Larchmont, NY: Eye on Education, 2005), 178-179.

³Deborah S. Temperly, "Cooperative Learning in the Community College Classroom, Teaching Students to Teach Themselves in the 'Jigsaw Classroom,'" *Journal of College Science Teaching*, 24 (November 1994), 94-97; Joseph C. Colosi and Charlotte Rappe, "Jigsaw Cooperative Learning Improves Biology Lab Courses," *Bioscience*, 48 (February 1998), 118-24; G. Douglas Martin, "Cooperative Learning in Chemistry Tutorials, Assessing the Effectiveness of Group Learning Strategies," *Journal of College Science Teaching*, 25 (September/October 1995), 20-23; S.W. Tina Choe and Philippa Drennan, "Analyzing Scientific Literature Using a Jigsaw Group Activity," *Journal of College Science Teaching*, 30 (February 2001), 328-330; Terri Lynn Constantopoul, "A Cooperative Approach to Teaching Mineral Identification," *Journal of Geographic Education*, 42 (May 1994), 261-263; David V. Perkins

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During the activity, students must discuss an assigned reading with one group of peers and teach the material to another group of peers. The acts of reading, discussing, and teaching reinforce student learning. Furthermore, a jigsaw activity places the responsibility of mastering the material firmly on the shoulders of students.

Description of Jigsaw Method

In the jigsaw method, students are divided into two groups, the expert group and the teaching group. The members of the vertical groupings—the expert groups—are assigned the same reading (refer to vertical columns in chart below labeled Chapter 1, Chapter 2, etc.). Each student reads assigned material and prepares a handout that will assist in teaching the material to the students in the horizontal grouping. The horizontal groups are the teaching groups (refer to horizontal columns labeled Group A, Group B, etc.). The students in the teaching group actually teach their assigned reading to their peers, providing each student in the group with a concise handout that summarizes the material.

For example, referring to the chart below, Student 6 would read Chapter 1, discuss Chapter 1 with her expert group consisting of students 1, 5, 10, and 14 who also read Chapter 1. Then Student 6 would teach Chapter 1 to her teaching group consisting of Students 7, 8, and 9.

	Chapter 1	Chapter 2	Chapter 3	Chapter 4
Group A	Student 1 & Student 5	Student 2	Student 3	Student 4
Group B	Student 6	Student 7	Student 8	Student 9
Group C	Student 10	Student 11	Student 12	Student 13
Group D	Student 14	Student 15	Student 16	Student 17

Advance Preparation

Prior to introducing the lesson, the instructor must prepare a chart similar to the one above that assigns each student to an expert and a teaching group. Teaching groups should be no larger than five students so as to allow each student to participate fully in

³(...continued)

and Renee N. Saris, "A 'Jigsaw Classroom' Technique for Undergraduate Statistics Courses," *Teaching of Psychology*, 28 (2001), 111-113; Timothy Hedeon, "The Reverse Jigsaw: A Process of Cooperative Learning and Discussion," *Teaching Sociology*, 31 (July 2003), 325-332; David W. Carroll, "Use of the Jigsaw Technique in Laboratory and Discussion Classes," *Teaching of Psychology*, 13 (May 2001), 111-13.

the activity. Many classes will have an "odd" number of students that do not fit neatly into the chart. In this case, two students might be assigned to the same "block" and share the teaching responsibilities (refer to Student 1 and Student 5 in the chart above).

The instructor must also select appropriate texts. Each assigned selection should be similar in length and complexity. The instructor should carefully analyze what she or he wants students to learn from the text and prepare appropriate guiding questions for students. Specific examples of assignments are provided below.

Day 1: Introduce jigsaw and assign reading material

On the first day of this exercise the instructor must explain the concept of the jigsaw activity, provide students with the jigsaw chart, and outline the timeline for completion of the assignment. Students should receive a printed timeline for the activity as well as detailed instructions for the handout that they will provide to members of their teaching group.

In my experience, the handout that students prepare should be limited to a one-page, typed outline of the material. The one-page limitation forces students to think carefully about the most important points. Each student is responsible for making enough copies to provide one to each teaching group member, as well as a copy for the instructor. The instructor might also require each student to write appropriate test or quiz questions over the assigned material. Only fifteen to twenty minutes of the class period are needed to introduce the jigsaw activity.

Day 2: Expert groups meet

By the second day of the activity, students should have completed the reading assignment. The second day might be the class period immediately following the introduction of the activity if shorter texts are assigned or the second day might take place several class periods later in order to allow students more time to read longer assignments. Class time during the second class meeting is dedicated to a discussion of the text among the expert group members. This discussion allows the students who read the same material to ask questions, share thoughts, and clarify their thinking about the reading material. The instructor visits each group, answering questions that arise. Meetings of the expert groups might take as little as fifteen minutes or as long as the entire class period, depending upon the length and complexity of the material.

Day 3: Teaching groups meet

Students must come to class the third day of the jigsaw activity prepared to teach and must bring the required number of copies of their handouts. Students meet with the members of the teaching group, each taking a turn to teach the material to the other students in the teaching group. This phase of the activity takes the longest amount of class time, as each student must have sufficient time to present the material and answer relevant questions.

The instructor should indicate the time limit for each student presentation and assign one group member in each teaching group the responsibility of keeping time. For example, each student within each group might be allowed from fifteen to twenty minutes to teach the assigned material. As each group finishes, the instructor should provide a list of discussion questions to the teaching groups to insure that the most important points have been covered. The meetings of the teaching groups might take more than one class period, depending upon the length and complexity of the assigned readings.

Common Problems

The most common problem occurs when a group member does not attend class on the teaching day, creating a gap in the information learned by the remaining teaching group members. One method that can effectively prevent unnecessary absences is to assign a substantial grade for attendance on Day 3, the teaching day. But student absences still might occur. In such a case, the instructor should obtain a copy of the handout of that particular reading from another student with the same reading assignment and make photocopies to provide to the teaching group with the absent member.

I have unusually high success in motivating students to read their assignment carefully and prepare high quality handouts when I use the jigsaw method. A few students have missed class on the teaching day, but no student has come completely unprepared. Students know from the outset that their peers will judge their performance and this type of peer pressure is an excellent motivator. But if a particular student fails to do her or his part, the other students will be "cheated" of that information. In the rare case that a student has not completed the required reading or done a poor job of summarizing the material for teaching group members, I simply provide that student's teaching group with a copy of a high-quality student handout from another group and mark down the grade of the student who made a substandard contribution. Additionally, the instructor can add a student rating system in which each student provides the instructor with a confidential evaluation of the performance of each of her or his group members. An average of the ratings of the group members might be added to the total grade for the jigsaw assignment.

Prior to introducing this activity for the first time in a college classroom, I had serious reservations, many based on my own negative experiences with group activities. First, my classes commonly contain many types of students with busy schedules (traditional on-campus students, commuters, and non-traditional students) that resent scheduling time outside of class to meet as a group. When introducing the jigsaw activity, I make it very clear that students are not expected to meet as a group outside of class. My second reservation was that the students would think that the activity involved too much pointless interaction with peers or that it was too elementary for the college classroom. But, to my surprise, in course evaluations, students consistently

mentioned jigsaw activities in positive terms. In fact, students in upper-level and graduate courses are the most enthusiastic about this approach.

Examples

Reading assignments in my classes often serve two purposes: reading for a broad, factual understanding, and reading to critically analyze. These purposes might overlap in the same reading or the reading might only serve one of the two. The following discussion will provide examples of each.

Jigsaw for "Learning the Facts"

In a sophomore-level course that introduces the early Middle Ages, I want students to have an understanding of the daily life of various medieval environments and how the diverse groups of people within these environments interacted. I assign four chapters from Jeffrey L. Singman's *Daily Life in the Medieval Europe*: "Village Life," "Castle Life," "Monastic Life," and "Town Life."⁴ In order to prevent students from becoming overwhelmed by the details in the chapter, I provide guiding questions to assist in their preparation of the lesson and handouts. For example, students should address the following issues: What is the formal or informal system of government used within the environment described in your chapter? What are the distinct socio-economic groups in this environment? What economic activity supports the members of each socio-economic group? In what ways does the Roman Catholic Church influence economic activity, governing, and social activity?

When the teaching groups meet (on Day 3), I provide the following final questions for discussion after the conclusion of each student's lesson: How do the systems of government of each environment overlap? What are the similarities and differences in the socio-economic groups? How are the economies related? How is the influence of the Church the same, or different, in each group? Students are expected not only to discuss these issues, but also to take notes recording the conclusions of the group. Finally, I lead the entire class in a discussion during which the answers to these questions are carefully examined. This final discussion provides both a review and an opportunity to clarify main points and correct misconceptions.

Jigsaw for Critical Analysis

The critical analysis of texts also can be encouraged using the jigsaw method. The instructor might choose sets of primary sources, excerpts from the work of historians with conflicting opinions, or contradictory opinion pieces on current issues.

⁴Jeffrey L. Singman, *Daily Life in Medieval Europe* (Westport, CT: Greenwood Press, 1999).

For example, the assigned readings can be primary sources that describe the same event from different viewpoints.⁵ Or, the readings might represent the spectrum of interpretations on a particular issue, incident, or era.

An especially useful text for the student of medieval historiography is Rosenwein and Little's *Debating the Middle Ages*. This text contains a set of five to six essays by different historians in four key areas of study: the fate of Rome's western provinces; feudalism; gender; and religion and society.⁶ Each set of essays might be used as a separate jigsaw activity and placed within a medieval survey or historiography course as an introduction or conclusion to the study of the appropriate time period or theme.

Numerous collections of primary sources are available from textbook companies that provide sources organized by era or topic. These short selections can be readily assigned and analyzed using the jigsaw method. For a more challenging primary source analysis, I ask students to analyze interpretations of Charlemagne by assigning students one of the following works about Charlemagne: the epic *Song of Roland*, Einhard's *Two Lives of Charlemagne*, or the medieval "gab,"⁷ *The Pilgrimage of Charlemagne*.⁸ In this extended jigsaw, each of the primary sources is divided into three sections and discussion of the expert groups extends over several class periods as students complete each section. It is essential that the instructor spend time with each of the expert groups to explain the differing literary forms and context of each source. When the teaching groups convene, each student shares the details of the assigned account of Charlemagne as well as information about literary form. After student presentations on each source, teaching groups compare and contrast the three accounts of Charlemagne. Key questions to be answered include the following: What is true and what is not? How can

⁵A. Vincent Ciardiello described a high school jigsaw activity in which students compare conflicting primary sources pertaining to the ratification of the U.S. Constitution in "A Jigsaw Strategy: Teaching Opposing Viewpoints on the Ratification of the United States Constitution," *OAH Magazine of History*, 7 (Summer 1993), 8-11.

⁶Barbara H. Rosenwein and Lester K. Little, eds., *Debating the Middle Ages: Issues and Readings* (London: Blackwell Publishing Limited, 1998).

⁷The gab begins with a boast or jest which is followed by a challenge to perform the deed. This form of literature was generally associated with drinking alcohol. In this story, Charlemagne is goaded by his queen to prove that he is greater than Hugo the Strong of Constantinople. Charlemagne and the Twelve Peers make a hilarious pilgrimage to Jerusalem and Constantinople to prove the queen wrong. John L. Grigsby, *The Gab as a Latent Genre in Medieval French Literature, Drinking and Boasting in the Middle Ages* (Cambridge: Medieval Academy of America, 2000).

⁸*The Pilgrimage of Charlemagne (Le Pèlerinage de Charlemagne)*, ed. and trans. Glyn S. Burgess, introduction by Anne Elizabeth Cobby, vol. 47, Series A of the Garland Library of Medieval Literature (New York: Garland Publishing, Inc., 1988). Various editions of the *Song of Roland* and Einhard's *Two Lives of Charlemagne* are widely available.

historians distinguish between the two? When do truth and myth merge? What purposes do truth and myth serve? What parallels can be made to current events?

I especially enjoy providing students current events articles written from varying political viewpoints, encouraging them to pinpoint the affiliation and argument of their article, and then asking them to compare this view with the vastly different views represented in the articles of their peers. For example, for a lesson about modern public school funding in a graduate-level education course on "Teachers, Schools, and Society," I assign students to review the websites of five groups with diverse views on the issue of public school funding and choose a polemical article from each website.⁹ I print the article from each website for each of the five expert groups and provide the students with the link to the website. Students are expected to analyze the argument of each author or group and distinguish between fact and opinion, visiting the website to learn about the sponsoring organization if necessary. Guidelines for the handout and lesson include the following: 1. Research the background and mission of the author or group and explain to peers how this mission is illustrated in the article. 2. Explain the argument utilized in the article and analyze its truthfulness and its effectiveness on the intended audience. 3. Explain whether you agree or disagree with the argument presented in the article. As with the "just the facts" jigsaw, a whole-group discussion session is needed at the end of the group meetings during which the instructor clarifies main points and corrects student misconceptions.

Student evaluation of the jigsaw activities in my classes are consistently positive. Most comments convey that the jigsaw method made the content more interesting and promoted more in-depth thought and critical analysis. One student said that "it was fun and enlightening because it brought to light things I hadn't considered." Others noted that reading and discussing helped them to better form their own opinion, and they enjoyed hearing more than just the instructor's voice. A few noted that they "had" to learn the material because they were expected to teach it. I would have preferred that students view learning as less of a chore, but they believed that the jigsaw assisted them in the burdensome task of scholarship. Several students preferred the jigsaw method because it lightened their reading load. This was clearly an advantage in the eyes of students, a somewhat discouraging comment for instructor. The most common negative

⁹A. Alliance for the Separation of Church & State, <http://www.schoolandstate.org/home.htm>, Chris

Cardiff, "What about the Poor?" <http://www.schoolandstate.org/kb-CardiffWhatAboutPoor.htm>.

B. People for the American Way, <http://www.pfaw.org/pfaw/general>, "Florida Vouchers Under Fire: Outcry From All Sides Over Investigations and Mismangement,"

<http://www.pfaw.org/pfaw/general/default.aspx?oid=13709>.

C. American Enterprise Institute, <http://www.aei.org>, Frederic Hess, "Soaring School Spending," April 14, 2004.

D. The Committee for Education Funding, <http://www.cef.org>, "The FACTS About Education Funding," <http://www.cef.org/press/pr021105.asp>.

E. Hoover Institution, <http://www.hoover.org>, Eric Haushek, "The Truth About Teacher Salaries and Student Achievement," reprinted from *The Weekly Standard*, April 3, 2000.

comments described concerns that peers had not carefully read and summarized their assigned material. The most interesting group of comments revolved around the objective and subjective nature of history. These students were frustrated by the jigsaw activity because they seemed to be seeking one undeniably correct version of what really happened in the past. One student described this dissatisfaction in the following statement: "The true message can get lost in the political agenda, just tell me what I need to know." These telling comments demonstrated that students might have conceptions of the nature of history very different from my own. As a result, early in each course I directly address the objective and subjective nature of the discipline of history.

Summary

The jigsaw method is an excellent strategy for the college history classroom. This approach promotes critical reading and discussion skills and retention of the material through teaching and discussion among small groups. Students enjoy the activity because they take an active role in historical analysis and discussion and are given an opportunity to develop their thoughts and opinions in conversation with peers. Instructors take pleasure in the jigsaw activity because students become more responsible for their learning, actually read the text, and actively take part in debating historical topics.