

[*Editor's Note:* The jigsaw exercise, a collaborative learning technique originally developed to promote cohesion among diverse students, can be used in many ways in a community psychology class. The original version of this article appeared in the Education Connection column in *The Community Psychologist*, October 1996, vol. 29, no. 4, pp. 26-30; Stelzner has made some recent changes to update it. *The Community Psychologist* is a benefit of membership in the Society for Community Research and Action (see elsewhere in this website for information on joining SCRA).]

The Jigsaw Exercise: A Learning Tool for the Community Psychology Course

Stephen P. Stelzner
College of St. Benedict

Community psychology is a field which purports to value the notion of collaboration or cooperation. Many approaches to research and/or intervention in community psychology promote the concepts of interdependence, participation, and meaningful interaction between the researcher/change agent and various members of the community. It would only be right, then, if we (community psychologists) were to promote or model the same values or approaches when teaching courses on community psychology. One means by which to accomplish such a goal is through the use of cooperative learning techniques, a method of instruction which encourages active learning by the students, and face-to-face interactions which promote the development of social skills (Johnson, Johnson, & Smith, 1991). Sound familiar?

One of the specific classroom techniques used in the cooperative learning model is the "jigsaw exercise," originally discussed by Elliot Aronson and his colleagues (Aronson, Blaney, Stephan, Sikes, & Snapp, 1978), and later included as a cooperative learning strategy by David Johnson, Roger Johnson, and their colleagues (Johnson, Johnson, & Holubec, 1990; Johnson, Johnson, & Smith, 1991). The jigsaw exercise is a classroom procedure in which students must learn a portion of the material being covered in class--becoming an "expert" on that segment--and then teach it to a group of classmates. The key element of the jigsaw exercise is that the students are interdependent. In order for the students to learn the entire lesson, each student must do her part in teaching the segment she has been assigned. If she does not, that piece of the "puzzle" will not be learned.

The initial rationale for the use of the "jigsaw classroom," as Aronson and his colleagues referred to it, presaged, or at least echoed much of the philosophy of community psychology that has developed over the last thirty years. Aronson, et. al's initial interest was in the conflict (occasionally violent) that occurred as a result of the desegregation of the Austin, Texas public schools. Interestingly, they were attempting to develop methods which would prevent such conflict from developing in the first place. "...[I]t would be valuable if the basic process could be changed so that children could learn to like and trust each other not as an extracurricular activity but in the course of learning their reading, writing, and arithmetic" (Aronson, et. al, 1978, p.23, original authors' italics).

One means by which to prevent dysfunctional conflict or other social ills from occurring is to help those involved develop the capacity for fending it off themselves. As community psychologists, we discuss the development of *social competence* in members of the community or identifying individual or community *resources* which might promote mental health in the community. Aronson, et. al were trying to accomplish this aim by treating the classroom as a *community* in which they created "...a process that made it imperative that the children treat each other as resources" (1978, p.28, original authors' italics). They were particularly concerned about a culture which promoted competitiveness and devalued cooperation. "What we want to do is *teach cooperativeness as a skill* so that when a person finds herself in a situation where cooperativeness is the most productive strategy she will not view everyone in sight as competitors and doggedly try to defeat them" (Aronson, et. al, 1978, p.31, original authors' italics).

The jigsaw exercise has a number of things going for it as a strategy for modeling the values of community psychology. First and foremost, it teaches collaboration--and the collaboration must take place because the resources are not dominated by any one person (or group). Second, it is an exercise which develops the social competence of the students. Each student gets practice in communicating information to his classmates so that they are able to comprehend and retain the information. Third, the students begin to see each other as resources--in ways they may not have before. Fourth, the students gain an appreciation for the interdependence that exists in many kinds of *community* endeavors. In other words, the students get a sense of the fact that many members of a community (including the community psychologist) may bring a particular expertise to the effort which may facilitate the entire process of intervention.

The Jigsaw Procedure

The basic procedure for the jigsaw exercise is as follows (adapted from Johnson, Johnson, & Smith, 1991). The instructor creates "cooperative groups"--sets of students who will work to teach each other segments of the material being covered in that class period or segment of the course. I have created "base groups," which are cooperative groups that stay together for the entire semester (or at least a significant portion). These groups (usually made up of three or four individuals) typically work together on a long term project: the development of a preventive intervention proposal which they will present to the rest of the class at the end of the semester. Occasionally, I will create temporary work groups so that the students have the opportunity to collaborate with others in the class.

Once the cooperative groups are identified, each is assigned a portion of an assignment, divisible by the number in the group. Two general approaches are to divide a reading assignment, into clearly identifiable parts, or to literally give each member of the group a portion of the assignment (e.g., a handout with their "piece" on it). The students then move into "preparation pairs." In these pairs they are asked to work toward becoming experts on their portion of the material and plan how to teach it to their cooperative group. Each student then moves to working with a "practice" partner--a student who is responsible for the same material, but has worked with a different preparation partner. The practice pair shares their knowledge and approaches to teaching

the material, trying to incorporate ideas from the other's preparation work. The students then move back into their cooperative groups to teach their segment *and* learn the segments on which the other members of the group have become experts. Finally, there is typically some kind of evaluation of the students' learning. I have typically randomly called on students to share what they have learned with the rest of the group, part of which may be their responses to questions from the instructor or another member of the class. Johnson, et. al suggest that the evaluation center around some "preset criterion of excellence."

This procedure can be adapted in a number of ways, but depending on the material itself and the length of the class, it is likely to take an entire class period, if not two. The different steps in the procedure can then be carried out within one class or broken up to extend over the number needed to complete the jigsaw. Some examples of jigsaws I have structured may help clarify the procedure.

STEPS IN THE JIGSAW PROCESS

DESCRIPTION OF THE STEP

1. *CREATE COOPERATIVE GROUPS*

Sets of students who will work together to teach each other different segments of the material.

2. *DIVIDING THE MATERIAL INTO PARTS*

Two approaches:
 1) divide a reading assignment into logical components, or
 2) give each member a separate but related reading assignment.

3. *MEETING IN PREPARATION PAIRS*

Students help each other become experts on their segment of the material and prepare to teach it.

4. *MEETING WITH A PRACTICE PARTNER*

Students teaching the same material exchange ideas for teaching and fine-tune their plans for teaching.

5. *TEACHING AND LEARNING IN THE COOPERATIVE GROUP*

The students teach their segment to their cooperative group and learn the segments taught by the other experts.

6. *EVALUATION*

The students' learning is assessed, usually based on some preset criteria of excellence.

Example 1: Prevention

A typical example of the use of the jigsaw exercise in the community psychology course involves the concept of prevention. Students can be assigned one of the three traditional typologies of prevention (primary, secondary, tertiary) introduced by Caplan (1964) as the topic on which they will become experts. The students are expected to research their specific type of prevention, gather appropriate examples of its application, consider the pros and cons of using such a preventive approach, and develop their "lesson" with two different partners, as is typical in the traditional jigsaw exercise. Ultimately, of course, they will teach the members of their base group about either primary, secondary, or tertiary prevention. The Institute of Medicine (IOM) classifications of prevention could also easily be added to this exercise or substituted.

I have used two types of readings as source material for the discussion of prevention: 1) the standard textbook reading which reviews the three types of prevention and may or may not give specific examples, and 2) a series of case studies, each of which represents one of the three types of prevention. For example, with regard to the latter approach, I have assigned readings from Munoz, Snowden, and Kelly (1979), such as Fairweather's "Lodge" research or the Gottlieb and Todd investigations of social support. Another excellent source is Price, Cowen, Lorion, and Ramos-McKay's "14 ounces of prevention" (1988). More recent descriptions of preventive interventions, of course, could easily be substituted.

Example 2: Psychological stress

A broad, but critical topic that is the focus for portions of many community psychology courses is the topic of psychological stress and its consequences. I have used the jigsaw exercise to attempt to explore the different ways in which stress has been defined, and its implications for community intervention. Most recently, I have asked students to read Hobfoll's article from the *American Psychologist* (1989) on his stress model or the "conservation of resources." The article does a nice job of summarizing stress models which have been used in the past and outlines Hobfoll's model. The parts of the puzzle in this case then are the different conceptualizations of stress. Thus, the students become experts on a particular stress model.

Example 3: Informal social support

A jigsaw which builds on the previous experience (stress models) involves the discussion of informal social support networks. In this case, the purpose is to get the students to apply the notion of different types of social support. Thus, students become experts on emotional, material/tangible, appraisal, and informational social support. In this case, they are given a set of questions which they use to guide their exploration of the concepts. How does this type of social support reduce or prevent stress and its consequences? Could this type of social support be used to reduce stress in the population "targeted" in your community intervention? How could you intervene in such a way as to build this type of social support into the population so that it is part of their everyday experience?

Example 4: Critical issues in community psychology

I have used the jigsaw exercise fairly early in the undergraduate community psychology course to examine some of the critical values or current issues in the field. Leading up to these discussions the students have been given a general overview of the field, they have discussed their social values with their peers, and they have done some preliminary introductory reading, including a portion of Sarason's original writing on psychological sense of community (1974). I then assign reserve readings which tackle some of the current issues in community psychology from unique perspectives. The *American Journal of Community Psychology* is a good source for this reading, such as presidential addresses to Division 27 that focus on important historical themes or critical social trends (e.g., Kelly, 2002; Linney, 1990; O'Donnell, 2006; Seidman, 1988), or seminal articles that have important implications for the field (e.g., Brody, 1986; Chavis, 1993; Shinn, 1987).

Each member of the base group is then assigned one of these readings and asked to consider the following questions: How would the author define community psychology? What does the author think are the critical variables for a "community" psychology? Would the author's approach contribute to a "psychological sense of community" as Sarason describes it? What are the strengths and weaknesses of the author's approach? Typically, once the teaching of peers is done, there is a continuing discussion of the issues in the base groups or in the larger class about which approach might best contribute to psychological sense of community and/or achieve the goals of community psychology. This particular type of jigsaw exercise is a nice example of the way in which conceptually difficult material can be approached in the undergraduate community psychology course. It's also a further attempt to define what we mean by "community psychology."

Example 5: Ecological paradigm

Another example of discussing conceptually difficult material via the jigsaw exercise involves the ecological paradigm. Four principles from biology (Interdependence, Cycling of Resources, Adaptation, Succession) which Jim Kelly has used (e.g., Trickett, Kelly, & Vincent, 1985) to outline an ecological approach to preventive interventions are assigned to members of the class after a brief discussion of the conceptual background for an ecological model. The assignment is fairly straightforward in this case: become an expert on one of the four principles, develop a method for teaching it, and teach it to your base group. Students are encouraged to provide examples of the principle in their teaching methods, and to consider how these four principles contribute to an ecological paradigm for community psychology.

Summary

The jigsaw exercise is an interesting and energizing (for both student and instructor) means by which students in a community psychology class can get a feel for the values of the field in a *classroom setting*, develop some *social skills*, and *learn the material* in an effective manner. I try to use it selectively, since it can become tiresome or "old hat," as

with any pedagogical device. But my experience has been very positive in its effectiveness as a learning tool. Just as importantly, I point out to students its relevance to community psychology, particularly the notion that when the community psychologist intervenes, he or she is not the only "expert" available in the community. There are members of the community with expertise, talent--or the potential for such expertise or talent--just as there are in the classroom.

References

- Aronson, E., Blaney, N., Stephan, C., Sikes, J., & Snapp, M. (1978). *The jigsaw classroom*. Beverly Hills, CA: Sage Publications.
- Brody, J. G. (1986). Community psychology in the eighties: A celebration of survival. *American Journal of Community Psychology, 14*, 139-145.
- Caplan, G. (1964). *Principles of preventive psychiatry*. New York: Basic Books.
- Chavis, D.M. (1993). A future for community psychology practice. *American Journal of Community Psychology, 21*, 171-181.
- Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist, 44*, 513-524.
- Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1990). *Cooperation in the classroom (Revised)*. Edina, MN: Interaction Book Company.
- Kelly, J.G. (2002). The spirit of community psychology. *American Journal of Community Psychology, 30*, 43-63.
- Linney, J. A. (1990). Community psychology into the 1990's: Capitalizing opportunity and promoting innovation. *American Journal of Community Psychology, 18*, 1-17.
- Munoz, R. J., Snowden, L. R., & Kelly, J. G. (Eds.). (1979). *Social and psychological research in community settings*. San Francisco: Jossey-Bass.
- O'Donnell, C.R. (2006). Beyond diversity: Toward a cultural community psychology. *American Journal of Community Psychology, 37*, 1-7.
- Price, R. H., Cowen, E. L., Lorion, R. P., & Ramos-McKay, J. (Eds.). (1988). *14 ounces of prevention: A casebook for practitioners*. Washington, DC: American Psychological Association.
- Sarason, S. B. (1974). *The psychological sense of community: Prospects for a community psychology*. San Francisco: Jossey-Bass.
- Seidman, E. (1988). Back to the future, community psychology: Unfolding a theory of social intervention. *American Journal of Community Psychology, 16*, 3-24.
- Shinn, M. B. (1987). Expanding community psychology's domain. *American Journal of Community Psychology, 15*, 555-574.
- Trickett, E. J., Kelly, J. G., & Vincent, T. A. (1985). The spirit of ecological inquiry in community research. In D. Kellin and E. Susskind (Eds.), *Knowledge building in community psychology*. New York: Praeger.