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# Teaching Tools & Techniques

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Techniques for Student Engagement and Classroom Management in  
Large (and small) Classes

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## *Purpose*

- To share a model for teaching large classes that (a) promotes student engagement and (b) minimizes faculty time spent on classroom management and grading

## *Objectives*

The use of these teaching techniques provides students with opportunities to

- Learn from one another through a group process
- Manage their own learning experience
- Fully participate in classroom activities
- Remain on task despite large enrollments where students often “hide” or deliberately engage in distracting behaviors

The use of these teaching techniques provides teachers with opportunities to

- Spend less time on classroom management
- More fully engage with individual students
- Do quick assessments of student performance and make on-the-spot corrections, if necessary
- Monitor activity within groups, including academic learning and other issues related to group dynamics

## *Rationale*

Some of our most important introductory courses are taught in very large classes with more than 100 students packed into an auditorium-style classroom. Teaching these classes can be challenging, especially when teaching assistants are not assigned to help with the course. Students in large classes often feel lost in the crowd, making it easy for them to skip class if roll is not taken, and taking roll is time consuming. Students also tend to be reluctant to ask questions or offer their opinions in front of so many other people. Classroom strategies used in small classes are unmanageable when students number in the hundreds, unless the class can be broken down into smaller discussion groups under the supervision of teaching assistants. Unfortunately, most of us who teach large classes do so without the luxury of multiple teaching assistants.

However, as I recently learned, there is an alternative approach to teaching large classes that is based on cooperative learning, a process grounded in both research and “best practices” (Felder & Brent, Millis & Cottell, 1998; Millis, 2002; Millis, 2006). Over the past 90 years, more than 575 experimental and 100 correlational studies about learning have been conducted in the U.S. These studies have produced more information about the effectiveness of cooperative learning than about any other aspect of education, including lecturing and the use of technology (Johnson, Johnson, & Smith, 1991; Slavin, 1989 – 1990b). A recent meta-analysis of existing studies suggests that student learning increases by as much as one-half of a standard deviation when students are exposed to well-structured cooperative group work (Springer, Stanne & Donovan, 1999).

The positive impact of collaborative learning on student outcomes includes cognitive growth, academic achievement, and social-emotional growth, including: increased self-esteem, greater harmony in multi-ethnic classrooms, higher attendance, greater enthusiasm for the subject matter, positive attitudes toward learning, social competence, and positive interpersonal relations. Furthermore, the benefits of collaborative learning appear to be universal across age groups, ethnic groups, and a wide range of ability levels and subject areas, making cooperative learning is one of the most versatile educational strategies available to educators (Cuseo, 1992; Natasi & Clements, 1991). Furthermore, the collaborative learning process complements virtually every pedagogy or approach known to promote effective teaching and learning, and it puts into practice the seven principles of good practice in undergraduate education proposed by Chickering and Gamson (1987).

The collaborative learning process:

- Encourages contact between students and faculty
- Develops reciprocity and cooperation among students
- Encourages active learning
- Provides prompt feedback
- Monitors time on task
- Communicates high expectations
- Respects diverse talents and ways of learning

In large classes, most of these “best practices” are too often ignored by teachers who have no clue regarding to how to implement them, given the sheer volume of students. Nevertheless, all students, whether the class is large or small, need to feel connected to a teacher who is monitoring the learning progress on an individual basis. Students also need a structured process that supports learning-based interactions that enhance respect and appreciation for the contributions and varied backgrounds of their classmates. Students exposed to cooperative learning quickly recognize the value of active peer coaching as a tool to help them enhance each others’ learning and provide feedback. Finally, keeping students on task is probably the greatest challenge faced by teachers in large classrooms. One solution is to use structured roles within groups to make students responsible for encouraging each other’s full participation, for keeping the group on task, and for monitoring and reporting student learning within the group.

Our university is fortunate to have an Excellence in Teaching Program (ETP) directed by Barbara Millis ([millis@unr.edu](mailto:millis@unr.edu)). The ETP offers teaching tips that are mailed out to faculty every Tuesday, workshops on various topics, classroom visits to provide peer evaluation of teaching, and individual consultations with faculty who need ideas or advice on classroom issues: <http://teaching.unr.edu/etp/> Last year I taught my first course with over 100 students, *Introduction to Families*, and quickly realized that I needed help. After consulting with the

Director of ETP, I implemented the cooperative learning strategies described above in a process that I refer to as the Playing Card Model. These efforts resulted in dramatic improvements in student engagement and classroom attendance in the course.

**Procedures**

Students are organized into discussion groups using a deck of playing cards. Each group of 4 students is assigned a numeral or face cards (Ace through King). Then each student in the group is assigned one of the suits (♥♦♣♠). This process results in 13 groups of 4 students and accommodates 52 students (or one student assigned to each card in the playing deck). The process is repeated for each additional 52 students enrolled in the class, by adding a color (e.g., 13 blue groups, 13 yellow groups, etc.). The folders are organized as follows:

### Organization of the Folders

<p><b><u>Yellow</u></b></p> <p>Aces ♥♦♣♠</p> <p>2s ♥♦♣♠</p> <p style="text-align: center;"> </p> <p>Kings ♥♦♣♠</p>	<p><b><u>Blue</u></b></p> <p>Aces ♥♦♣♠</p> <p>2s ♥♦♣♠</p> <p style="text-align: center;"> </p> <p>Kings ♥♦♣♠</p>	<p><b><u>Green</u></b></p> <p>Aces ♥♦♣♠</p> <p>2s ♥♦♣♠</p> <p style="text-align: center;"> </p> <p>Kings ♥♦♣♠</p>
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- 13 folders for each color (Ace – King)
- 4 students per folder (♥♦♣♠)
- Each set of colored folders serves 52 students
- Each student has a unique identity (e.g., Five of hearts in the Yellow “Fives” folder)

Each student is assigned a role in the discussion group, with the roles rotated each week allowing each student an opportunity to fully participate in the class. The suits (♥♦♣♠) are used to assign roles, with a schedule of role assignments for the semester in each group’s folder. The current week’s roles also are posted on PowerPoint when students come into class, and cards describing the responsibilities of each role are kept in the folders.

Students are permanently assigned to a specific group for the semester, and sit in the same seat for every class. Student records can be used to identify the characteristics of students (ethnicity, gender, age, etc.) so that each group has some diversity. Tent cards in the group’s color and number are posted on the table in front of each group, to help with the identification of individual students (e.g., the Spokesperson in the blue 10s made a comment that needs follow-up outside of class).

An appropriate colored folder with side pockets is made up for each group. Inexpensive, reusable colored vinyl folders are readily available in office supply stores. Tote bags for craft supplies are the perfect size to hold and organize a set of folders, with a separate bag for each folder color. The folders are used to manage the class, and contain all the materials that the group will need for the semester. Each folder has the group number taped to the front, and includes an explanation of how the folders work, cards with instructions for each of the four

roles: Recorder, Folder Monitor, Discussion Leader, and Spokesperson (Appendix A), a schedule of role assignments for the semester (Appendix B), a roll sheet for attendance, a tent card with the group number, and answer cards for the quizzes. The folders are also used to distribute handouts and instructions/forms for activities, and to distribute and return assignments and tests.

Although the process of setting up the folders requires an up-front investment of time and money, the effort pays off in the long run. The materials can be reused for future classes and work equally well for large and small classes. More importantly, the quality of classroom instruction in large classes dramatically improves, and classroom management is more streamlined and less time consuming for the instructor. I use two Excel grade sheet for the class. One lists students by groups and the other lists students alphabetically. I record grades using the group listing, grading papers folder by folder so that I do not have to re-file them. Then, I can sort by the name column to get an alphabetical listing with the appropriate group code listed for each student. The alphabetical listing is useful any time you need to figure out which group a particular student belongs to and for reporting grades at the end of the semester. To get you started, electronic copies of all of the materials developed for the course, including templates for the grade sheets, are available from Dr. Jeanne Hilton: [hilton@unr.edu](mailto:hilton@unr.edu).

### **Example**

I teach a course on *Introduction to Families*, with a typical enrollment of about 125 students. The course is required for all Human Development and Family Studies (HDFS) and Early Childhood Education (ECE) majors, with a substantial number of non-majors taking the course. *Introduction to Families* is a pre-requisite for all upper-division courses in HDFS.

A typical class starts with the Folder Monitors coming to the front of the class and getting the folder for their group. Materials for the group are distributed by the folder monitor, the tent card is set up, and a PowerPoint slide is used to post the roles for the week in the front of the class. Each group member takes his/her role card and prepares for the class. The Folder Monitor sees that everyone gets his/her materials from the folder. The Recorder takes roll for the group and notes who is there and participating. The Discussion Leader looks at the activities for the day and figures out how to keep everyone on time and on task. The Spokesperson gets the quiz cards ready and prepares to take notes and make an oral report of the group's discussion.

I start the class with a summary of what we covered last week, objectives and activities for the week, and any items of business. Lecture is highlighted with PowerPoint, and lecture notes for the week are blocked on the course web page and then released on Friday. That way, students have the benefit of the notes without undermining the novelty of the lectures. Each lecture is punctuated with activities and questions for group discussion to encourage students to think about the material. Sometimes I have a structured activity with forms to fill out, and at other times I will ask students to share their opinions about an issue or identify myths about families by answering True/False questions. Discussion Leaders are responsible for keeping the group on time and on task during activities, and for ensuring that all members participate. The Spokesperson presents the group's results to the class or holds up the quiz cards when prompted. Typically, I will randomly select about eight groups to respond (after that the answers become repetitive) and then ask if there are any groups that had something different to report, or if there are any questions.

If there is an important concept that needs to be emphasized, I announce that everyone will potentially be the Spokesperson for the upcoming activity. This approach, which emphasizes peer coaching and individual accountability for learning, has various names in the

cooperative learning literature, such as “numbered heads together, “problem-solving lesson,” structured problem-solving.” Then I draw cards from a deck of playing cards so that everyone has an equal chance of being called on, and all students are invested in listening carefully to the discussion. The Recorders send me a brief email summarizing their group’s work at the end of the week. That way, I know if a student is repeatedly missing class or not participating or if there are any tensions in the group.

At the end of the week, ungraded quizzes are given on the readings and lecture. Six color-coded quiz cards (a, b, c, d and T F) called Visible Quiz cards (Staley, 2001) are used to quickly determine whether students have mastered the material. A printed quiz for each student is included in the folders. Students take the quiz individually and then discuss their answers with the other members of their group. The group decides on the right answer for each question, and when prompted, the spokesperson for the group holds up the appropriate answer card at the same time as the instructor. Students can quickly see how well the class did, and group discussion helps students understand why a particular answer was right or wrong. If most of the class misses a question, I know that I have to explain the material more carefully; however this has never happened. Generally, the entire class has figured out the correct answer. I tell students that they need to pay attention to the quizzes because they are practice for three exams given during the semester, and that the completed quizzes will serve as a study guide for the exams.

Each class concludes with the Folder Monitor collecting all materials from the group and returning the folder to their color-coded tote bag at the front of the room. Occasionally, a Folder Monitor will forget to turn in the folder, but I know exactly who the culprit is and can quickly make contact to remedy the situation.

### ***Assessment***

I taught *Introduction to Families* one time before implementing the Playing Card Model, providing me with a baseline for comparison. Last year, I struggled to engage students in a meaningful way. I gave short graded quizzes each week to encourage students to come to class and pay attention, but did not take roll because I was already spending so much time recording grades. Attendance always was lower on the days when I did not give a quiz, and giving graded quizzes was time consuming for me and stressful for the students.

I used activities to break up the lecture and engage students, but students formed groups with those sitting near them, who tended to be friends, the same gender, and/or individuals from the same ethnic group. I walked around the classroom during the activities, and often observed students off task, just visiting with each other. When I asked for volunteers to give group reports, the response was sporadic at best. Asking each group of 4 students to give a report would have resulted in 32 separate responses, which would have been repetitive and time consuming. Randomly asking individual groups to give reports was out of the question too, as I didn’t know the names of students and had no other way to indicate which group was selected.

Classroom management also was difficult. A group of students in the back of the room talked constantly during lecture, disturbing the students sitting around them. I tried pausing during the lecture to look at them until they quieted down, walking while lecturing to where they were sitting and standing there, telling them that their classmates were complaining to me about the disruption, and even asking them to take it outside and stay there until they were ready to listen instead of talk. They would quiet down for a while and then start up again. This was a problem throughout the semester, and was the key factor that motivated me to seek help from the ETP program director.

Changes in the class using the Playing Card Model have been fairly dramatic. Every student in the class is engaged in some type of activity during every class period. All students take turns helping with classroom management, from taking roll to distributing materials and all have an opportunity to give me feedback in the form of the weekly emails and in-class oral reports on their group's discussion. The assignment to permanent groups and email reports make it easy for me to track whether or not individual students are attending class and participating in their groups.

The group discussions and quizzes give students the opportunity to share ideas and check their reasoning with others in the group. Everyone stays on task, because there is accountability, and students are more spontaneous and comfortable about asking questions and offering their opinions. The chatting in the back of the room is no longer a problem, partly due to the forced redistribution of students into permanent groups, and also, because students are so busy they don't have time to engage in side conversations.

The ungraded quizzes have been a remarkable teaching tool. I was amazed the first time I gave one of the quizzes to see every group in class hold up the correct answer. Now, if I see an incorrect answer in the class I am surprised. Students love the quizzes because they give them a chance to assess what they know without worrying about a grade. Within the groups, students explain to each other why they think an answer is correct or incorrect, so they learn from one another. A comparison of test scores from last year and this year indicates that students exposed to the ungraded quizzes increased their scores on the first test by an average of 5 points.

One of the most gratifying outcomes of the process is how enjoyable the class has become for both the students and for me. The energy level in the class has soared. Everyone is relaxed, comfortable, and engaged. I asked students to give me anonymous feedback regarding their perspective on how the class is doing. Their responses indicate that they look forward to coming to class, that they have formed friendships in their groups that would not have occurred otherwise, and that they have learned a great deal from discussing the material with one another.

### **References**

- Chickering, A.W., & Gamson, A.F., (1987). Seven principles for good practice in undergraduate education. Racine, WI: The Johnson Foundation, Inc./Wingspread. [Available by contacting the Seven Principles Resources Center, P.O. Box 5838, Winona State University, Winona, MN 55987-5838; (507) 457-5020] Available online at <<<http://learningcommons.evergreen.edu/pdf/fall1987.pdf>>> Retrieved September 30, 2006.
- Cuseo, J. (1992, Winter). Collaborative & cooperative learning in higher education: A proposed taxonomy. *Cooperative Learning and College Teaching*, 2(2), 2-4. Reprinted in Cooper, J. L., Robinson, P. & Ball, D. (Eds). *Small group instruction in higher education: Lessons from the past, visions of the future*. (pp. 18-26). Stillwater, OK: New Forums Press.
- Felder, R. M. & Brent, R. (1994) Cooperative learning in technical courses: Procedures, pitfalls, and payoffs. Eric Document Reproduction Service Report ED 377038. Available online at <http://www.ncsu.edu/felder-public/Papers/Coopreport.html> Retrieved September 30, 2006.

- Johnson, D. W., Johnson, R. T. & Smith, K. A (1991). *Cooperative learning: Increasing college faculty instructional productivity*. ASHE-ERIC Higher Education Report No. 4. Washington, D.C.: The George Washington University, School of Education and Human Development.
- Lederman, D. (August 1, 2006). 'Engagement' and the Underprepared. *Inside Higher Education*. Available online at <<<http://insidehighered.com/news/2006/08/01/engage>>> Retrieved September 30, 2006.
- Millis, B. (October 2002) Enhancing learning—and More!—through cooperative learning. IDEA Paper #38. Kansas State University: IDEA Center. <<Retrieved December 30, 2005: [http://www.idea.ksu.edu/papers/Idea\\_Paper\\_38.pdf](http://www.idea.ksu.edu/papers/Idea_Paper_38.pdf)>>
- Millis, B. J. (2006). Helping faculty learn to teach better and “smarter” through sequenced activities. In Chadwick-Blossy, S. & Robertson, D. R. (Eds.). *To Improve the Academy*, Vol 24. (pp. 216-230). Bolton, MA: POD Network and Anker Publications.
- Millis, B. J. & Cottell, P. G. (1998). *Cooperative Learning for Higher Education Facult*. Phoenix: ACE/Oryx Press. [Distributed through Greenwood Press]
- Natasi, B. K., & Clements, D. H. (1991). “Research on cooperative learning: Implications for practice.” *School Psychology Review*, 20(1), 110–131.
- Slavin, R. E. (1989–1990b). “Research on cooperative learning: Consensus and controversy.” *Educational Leadership*, 47(4), 52–55.
- Springer, L., Stanne, M., & Donovan, S. (1999, Spring). Effects of small-group learning on undergraduates in science, mathematics, engineering, and technology: A meta-analysis. *Review of Educational Research*, 69(1), 21-51.
- Staley, C. (2001). *50 ways to leave your lectern*. Belmont, CA: Thompson-Wadsworth.

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*Appendix A*

<b>Role Cards</b>	
<p style="text-align: center;"><b>RECORDER</b></p> <ul style="list-style-type: none"> <li>• Take roll each class period; Note whether students are absent, present, and if they are late or leave early</li> <li>• Send me an email at the end of the week summarizing the work of your group</li> <li>• Describe the level of preparation and participation by group members, any questions, challenges, or problems that came up, and the things that worked well in your group</li> <li>• The email only needs to be a short Paragraph</li> </ul>	<p style="text-align: center;"><b>FOLDER MONITOR</b></p> <ul style="list-style-type: none"> <li>• Pick up your group folder from the TA at the beginning of class and return it to her at the end of class</li> <li>• Post the tent card on the table in front of your group</li> <li>• Give the role sheet to the <b>Recorder</b></li> <li>• Give the quiz cards to the <b>Spokesperson</b> in your group (on Thursdays)</li> <li>• Distribute materials in the folder, including these role cards, instructions/forms for activities, and any handouts or returned materials</li> <li>• Collect any materials to be turned in, including the quiz cards and roll sheet</li> </ul>
<p style="text-align: center;"><b>DISCUSSION LEADER</b></p> <ul style="list-style-type: none"> <li>• Facilitate and keep the discussion going</li> <li>• Try to get everyone to participate</li> <li>• Keep the group on task</li> <li>• Monitor the time</li> </ul>	<p style="text-align: center;"><b>SPOKESPERSON</b></p> <ul style="list-style-type: none"> <li>• Take notes for the group during discussion and activities</li> <li>• Represent the group when oral reports are requested in class</li> <li>• Monitor the quiz answer cards for the group and holds them up when the teacher asks for the group's answer to a question</li> <li>• Make sure that the quiz cards are returned to the folder each day</li> </ul>

*Appendix B*

WEEKLY ROLE ASSIGNMENTS														
	Sep 5	Sep 12	Sep 19	Sep 26	Oct 3	Oct 10	Oct 17	Oct 24	Oct 31	Nov 7	Nov 14	Nov 21	Nov 28	Dec 5
Recorder	♥	♠	♣	♦	♥	♠	♣	♦	♥	♠	♣	♦	♥	♠
Folder Monitor	♦	♥	♠	♣	♦	♥	♠	♣	♦	♥	♠	♣	♦	♥
Discussion Leader	♣	♦	♥	♠	♣	♦	♥	♠	♣	♦	♥	♠	♣	♦
Spokes-person	♠	♣	♦	♥	♠	♣	♦	♥	♠	♣	♦	♥	♠	♣

*Appendix C*

Sample Grade Sheet*			Exam 1	Exam 2	Exam 3	Assign. 1	Assign. 2	total pts	Final Grade
Course #: Fall 2006			100	100	100	50	50	400	
A	♥	Flores, Carl							
A	♦	Albers, Melissa							
A	♣	Hines, Heather							
A	♠	Bonsall, Natalie							
2	♥	Nielson, Bethany							
2	♦	Yarmak, Krystal							
2	♣	Santos, Maria							
2	♠	Munson, Allison							

\* Note: The first two columns can be color coded to represent each group of folders, and color coding the hearts and diamonds red, makes it easier to read the identifying information.