

SWAP SESSION NEWSLETTER

No. 2

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Teaching is much like athletic performance. Preparation is lengthy; performance is brief. Nevertheless, the season is long, and you have to pace yourself, holding something in reserve for the crucial moments.
-Robert Kabel

Topic- Active Learning in small classes

Dr. Ann Stalheim-Smith, University Teaching Scholar Chair, moderated the session. She began by providing the following two cooperative learning goals which are stated in Charles Bonwell's book Active Learning: Creating excitement in the classroom:

1. To enhance student learning.
2. To develop social skills including decision-making, conflict management, and communication.

*To achieve these goals, the proponents have emphasized working with students in small groups in a structured process to achieve some academic goal.

*This usually involves a heterogeneous group of 3-5 students working together to complete a specified academic task.

*Active roles are assigned to students in the groups. Dr. Ann Smit, a professor in the Department of Family Studies and Human Service, uses the following roles in her cooperative learning groups:

1. Leader/reflector- organizes the group, asks questions, and summarizes
2. Recorder- writes down ideas
3. Encourager- encourages everyone to participate
4. Speaker- reports team ideas to the class

Dr. Ann Stalheim-Smith proceeded to summarize a study found in the Journal of Chemical Education. This study, conducted at Florida State University, involved six faculty members and three sections of an introductory chemistry course. The study's aim was to improve student learning.

Each section of chemistry varied in the teaching method used:

SECTION ONE- The traditional teaching method was used.

SECTION TWO- Unstructured cooperative learning groups were used. Students were not required to work in groups, but the professor gave them a problem to solve in recitation, and they were encouraged to work together to solve it. The problem was handed in at the end of the hour. Also, in order to improve communication, the professor put a box in the lecture hall, and students were encouraged to ask questions or make comments and put them in the box. The professor responded to these the next time the lecture met.

SECTION THREE- Structured cooperative learning groups were used. Students were required to be in groups of 3 or 5 called study teams. They did various activities together. One of these was called the pretest activity. The week before the exam, the professor gave the students an exam that covered the same material in the same depth as their upcoming one. (No questions were the same.) The study teams were to work on this exam together and hand it in. The professor graded the exams and divided the score by 10, and then each member of the group got the same score.

Also, each student in this section had an E-mail account. If a group member asked a question of the professor via E-mail, then he would respond by E-mail to all study team members and give 5 points to their group.

RESULTS OF THE STUDY:

*Student success rate showed the greatest difference among the three groups.

*The structured cooperative learning groups succeeded at the course (C or better) statistically significantly more often than the other two sections.

*Students in the unstructured cooperative learning section passed the course in significantly greater numbers than students in the control section.

Ideas about cooperative learning groups were presented by Steve Trautwein, Associate Professor of Biology at Southeast Missouri State University, and Marion (Buddy) Gray, Professor of History at Kansas State University.

Steve Trautwein uses cooperative learning in his anatomy classes. Each lab section consists of 4 groups, and the students work in these groups all semester.

Dr. Trautwein stated five key elements of cooperative learning:

1. Interdependence between the success of individuals in the groups.
2. Interaction between individuals in terms of encouragement.
3. Each student is responsible for his/her own preparation and is accountable to the group for the success of the group.
4. Expectations of social skills among group members.
5. Periodically stopping to ask "How well are we doing?"

To help students succeed, he structures student activities that take place prior to class, during class, and after class. These are explained below:

STUDENT ACTIVITIES PRIOR TO CLASS:

1. Help them to prepare: Study guides with specific suggestions designed to help students prepare ahead of time are provided.
2. Reward them for preparing: Students are allowed to use their notes during weekly quizzes. He has found this to increase their participation dramatically.
3. Reward them for helping one another to prepare: If all group members earn 8 of 10 points on the weekly quiz, then each student receives 3 additional points on his quiz score.

STUDENT ACTIVITIES IN CLASS:

1. Let them know what we expect them to do: Provide behavioral objectives.
2. Help them to meet our expectations: Use group activities and job descriptions for each group member.

STUDENT ACTIVITIES AFTER CLASS:

1. Provide opportunities for them to review material: Have review sessions and material on reserve at the library.

Dr. Gray provided an example of how he uses a group model in his upper level history class, Women in European History. Dr. Gray explained that history is not an exercise in memorization, but a process of active learning to gain skills of interpretation. His goal is to help students learn how to make sense of historical situations.

His course consists of three student requirements:

1. Reading the assigned material
2. Discussing questions in groups
3. Writing historical essays

Every class period, there is an assignment to read along with discussion questions to think about. Nearly every class meeting, he passes out a sign-up sheet for the following class. The students sign up to be in discussion groups which represent different roles and historical perspectives pertaining to the reading for that day. They get into their groups and discuss the questions for 10-12 minutes and then report back to the whole class. These groups help the students to prepare for the writing of their historical essays.

Dr. Gray believes that successive levels of involvement with the material empowers the students to understand that history is a matter of interpretation, and that interpretation often depends on values and on the questions asked. The whole process revolves around critical reading and critical thinking and the sharing of ideas and impressions in order to refine one's own interpretive skills in history.

After the panel members spoke, the audience was asked to form discussion groups of four people. They were given 10 minutes to discuss the following question:

How discipline-specific is this approach? Would it be necessary to change it in order to implement it in a course you teach? If so, how?

Some questions, responses, and reactions from the groups include:

*This approach is not discipline-specific. It could be used in a wide range of disciplines. You might need to make adaptations for some courses.

*What do we sacrifice by using this method? Do we cover the material or process less material more profoundly?

REPLY FROM DR. GRAY: You sacrifice content, but the sacrifice is worth it. Students forget data, but they are more likely to gain skills to analyze the data with this approach.

REPLY FROM DR. TRAUTWEIN: Students score higher on exams, and they are taking more responsibility for their learning and preparation with this approach.

*You don't want to have just one recorder in the group. Everyone in the group should take notes because they'll be using them to study for the test and for future reference. Also, don't designate one speaker before the activity. Pick the speakers at the end of the activity to ensure that everyone will be ready to respond.



ANNOUNCEMENTS:

1. A reference list for cooperative learning was provided at the Swap Session. This list can be found on the web page. Starred items on the reference list are on reserve in Hale Library under University Teaching Scholar, Dr. Ann Stalheim-Smith.

2. Web page address: <http://www.ksu.edu/biology/scholar>

3. Upcoming events include:

*Provost Lecture Series, December 15, 3:30 p.m. in the Big 12 Room in the Union. Topic: "The Focus is Learning" by Dr. Ann Stalheim-Smith

*A workshop on active learning given by Charles Bonwell. The date for the workshop is January 14, 8:30- 11:30 a.m.

*A conference on undergraduate science education- January 12-13.
For more information about this conference:
<http://www.phys.ksu.edu/perg/future>