

# Cooperative Learning Lecturer Training Programme

## Appendices

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## Table of Contents

<b>Appendix A</b>	<b>Cooperative Learning training at New Zealand tertiary institutes.....</b>	<b>2</b>
<b>Appendix B</b>	<b>Training Programme Module One: Course Booklet.....</b>	<b>6</b>
<b>Appendix C</b>	<b>Training Programme Module One: PowerPoint Slides .....</b>	<b>74</b>
<b>Appendix D</b>	<b>Training Programme Module Two: Course Booklet .....</b>	<b>75</b>
<b>Appendix E</b>	<b>Training Programme Module Two: PowerPoint Slides .....</b>	<b>98</b>
<b>Appendix F</b>	<b>Training Programme Module Three: Course Booklet .....</b>	<b>99</b>
<b>Appendix G</b>	<b>Training Programme Module Three: PowerPoint Slides .....</b>	<b>120</b>
<b>Appendix H</b>	<b>Training in cooperative learning: Evaluation form.....</b>	<b>121</b>

## Appendix A

### Cooperative Learning training at New Zealand tertiary institutions

The following information about tutor training courses is taken from the ASDUNZ network. Tutor training courses, in particular those courses which include elements of cooperative learning, are listed.

#### VUW:

No specific workshops on Cooperative Learning are listed.

VUW does, however, provide tutor resources on small group learning which include CL techniques. The *Tutor Survival Guide* and *Small Group Teaching*, both print and web resources, include information on the jigsaw, think pair share, buzz and pyramid techniques, group writing, and the one minute paper.

#### MASSEY:

##### Teaching Small Groups (TMGROUPS3)

This three hour workshop, which was run in Albany and Wellington in November 2009, focuses on the knowledge and skills required to teach smaller groups in interactive sessions - as against the more formal didactic lecture format. It includes processes such as active involvement of students; climate setting to promote interaction; facilitating group processes and a variety of teaching techniques.

##### Learning Outcomes

At the completion of this session participants should be able to:

- identify effective practices relevant to teaching small groups;
- design small group teaching session related to expected learning outcomes;
- integrate useful and effective strategies to help student learning;
- articulate your understanding of tutoring and small group teaching;
- evaluate the effectiveness of various techniques for your settings; and
- conduct a brief small group teaching session.

#### WAIKATO:

Waikato University offers the following three hour workshops on assessment and small groups:

- **Assessment Matters: Setting and Marking Assessment; Feedback Principles; Group Assessment; Academic Integrity**
  - Good task design
  - Marking criteria

- Feedback and Feed forward
- Developing a culture of peer and self evaluation
- Academic integrity: The role of the teacher
- **Facilitating Learning in Small Groups**
  - .The purposes of small group learning.
  - The characteristics of a successful facilitator
  - Strategies for promoting student participation and engagement
  - Managing common difficulties

**Waikato also provides the following online resources:**

Assessment Matters: self and peer assessment

[http://www.waikato.ac.nz/tdu/pdf/booklets/8\\_SelfPeerAssessment.pdf](http://www.waikato.ac.nz/tdu/pdf/booklets/8_SelfPeerAssessment.pdf)

Assessment Matters: Groupwork Assessment

[http://www.waikato.ac.nz/tdu/pdf/booklets/10\\_GroupworkAssessment.pdf](http://www.waikato.ac.nz/tdu/pdf/booklets/10_GroupworkAssessment.pdf)

Teaching students from diverse backgrounds

[http://www.waikato.ac.nz/tdu/pdf/booklets/12\\_InternationalStudents.pdf](http://www.waikato.ac.nz/tdu/pdf/booklets/12_InternationalStudents.pdf)

**AUT:**

AUT offers a one and a half hour workshop on group assessment:

- **Assessing Students in Groups**
  - Course Code: LE09.191.01
  - Scheduled and on request
  - 1.5 hours
  - There are many issues involved in assessing students on work that they undertake collaboratively. This session examines these issues and suggests some strategies for addressing them.

**AUCKLAND:**

Auckland University offers a three day workshop on university teaching and learning which includes small group teaching and diversity.

**University Teaching and Learning**

This 3-day workshop is an intensive overview of key concepts and strategies involved in university teaching and learning. Topics include large classes, working with small groups, encouraging active learning, diversity in the classroom, effective e-learning, course design and assessment and getting feedback on your teaching.

## **OTAGO:**

Otago University includes four hours on working with small groups in its three day introduction to university teaching and also offers a course on facilitating small groups.

### **An Introduction to University Teaching**

3 day course which includes four hours on Working with Groups

### **Facilitating small groups**

Information on tutor training and professional development courses was also researched through personal networks and from the ACE Aotearoa survey on professional development opportunities at New Zealand tertiary institutes conducted in 2006. There were no courses devoted specifically to Cooperative Learning but a number of courses included some training in group work. These are listed below.

## **CHRISTCHURCH POLYTECHNIC INSTITUTE OF TECHNOLOGY:**

### **Diploma in Adult Teaching**

Level 6

Includes a segment on Working with Groups

Will be replaced in 2010 by:

### **Diploma in Tertiary Learning & Teaching**

Level 6

Includes the elective DTLT605 Individual & Groups Learning Level 6 Credits 15

You will develop and apply skills of learning for individuals and in groups within an educational context.

## **UNIVERSITY OF CANTERBURY:**

### **Certificate in Adult Teaching**

Equivalent to level 6

Includes a segment on Working with Groups

### **Diploma in Adult Teaching and Learning**

ADTL682-10T2

Facilitating Adult Learning in Groups

## **SOUTHERN INSTITUTE OF TECHNOLOGY:**

National Diploma in Adult Education and Training

Level 5

May include the following unit standards:

19444 Deliver group training sessions to adults

7097 Facilitate interactive learning sessions for adults

## **NELSON MARLBOROUGH INSTITUTE OF TECHNOLOGY:**

Certificate in Adult Teaching

Levels 4 & 5

Working with Groups

## **TE WANANGA O AOTEAROA**

National Diploma in Adult Education and Training  
Level 5

## **OPEN POLYTECHNIC**

NC5564 National Certificate in Adult Education & Training Level 4

NC5565 National Certificate in Adult Education & Training Level 5

Both include 7097 Facilitate interactive learning sessions for adults as an elective

## **EIT**

Diploma of Adult Education

AE6.06 Group & Interpersonal Skills

This course enables students to apply interpersonal communication theory and skills in a variety of communication situations in the adult teaching context. Specific skills include active listening, group work and application of group dynamics theory.

## **AORAKI POLYTECHNIC**

National Certificate in Adult Education and Training (Level 5)

## **TAIRAWHITI POLYTECHNIC**

National Certificate in Adult Education and Training (Level 5)

## **TAI POUTINI POLYTECHNIC**

National Certificate in Adult Education & Training Level 4

National Certificate in Adult Education & Training Level 5

## **Reference:**

ACE Aotearoa. (2006). *Professional Development opportunities survey*. Retrieved February 22, 2010, from [http://www.aceaotearoa.org.nz/users/Image/ACE/Documents/PDOopportunitiesSurveyDec2006Final\\_copy\\_1.doc](http://www.aceaotearoa.org.nz/users/Image/ACE/Documents/PDOopportunitiesSurveyDec2006Final_copy_1.doc)

**Appendix B**

**Training Programme Module One**

**Cooperative Learning**

**Course Booklet**

# COOPERATIVE LEARNING

**“A widely circulated cartoon by Bud Blake shows a young boy declaring of his dog, “I taught Stripe how to whistle.” A skeptical friend notes, “But I don’t hear him whistling.” The boy retorts, “I said I taught him to whistle. I didn’t say he learned it.”**

(Millis and Cottell, 1998)



## Facilitators

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Whitireia New Zealand

A professional development programme funded by Ako Aotearoa

## Cooperative Learning: Session One

**“I hear and I forget. I see and I remember. I do and I understand.”  
(Confucius 551BC – 479BC)**

**“Tell me and I’ll listen. Show me and I’ll understand. Involve me and I’ll learn.”  
(Teton Lakota Indians)**

9 - 9.30am            What’s in a name exercise (Pair-square)

9.30 -10am            Zoom activity

10 - 10.30am            Individual beliefs about education and teaching

**10.30-10.45am            Morning tea**

10.45 - 12.00 noon    Jigsaw activity: Principles of Cooperative Learning

**12-1pm                      Lunch**

1- 2.30pm              Issues of Cooperative Learning (Constructive Controversy)

2.30 - 3.00pm            Practical guidelines for using CL with multi cultural classes

**3.00 – 3.15pm              Afternoon tea**

## Three step interviews

### Step One:

Mark the statements in the table below that best sum up your beliefs about teaching.

<b>TRANSMISSION</b>	<b>TRANSACTION</b>	<b>TRANSFORMATION</b>
The teacher is responsible for all aspects of learning.	The teacher and the students have a joint responsibility for learning.	Students are capable of taking responsibility for their own learning.
Knowledge is public information transmitted from teacher/texts to students.	Knowledge is dynamic and changing.	Knowledge is constructed by the student; it is contextual.
Student success is mastery of the curriculum.	Student success is the development of thinking and social skills	Student success is self development and personal actualisation.
The teacher is a director and manager.	The teacher is a facilitator.	The teacher is a co-learner.
Learning situations should be structured.	Learning situations should be semi-structured.	Learning situations should be structured by the student.
Extrinsic motivation is most important for students.	Extrinsic and intrinsic motivation are both important.	Intrinsic motivation is most important.
The aim of teaching is to cover the curriculum.	The aim of teaching is to develop personal skills. Eg problem solving.	The aim of teaching is social change and personal actualisation.

Adapted with permission from Brody, C. and Davidson, N. (eds) (1998) *Professional Development for Co-operative Learning*. Albany; State University of New York Press.

### Step Two:

In pairs – Interview each other by asking these questions:

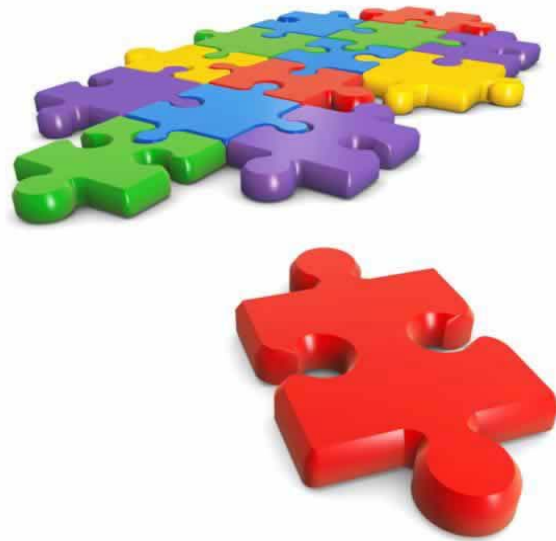
- Choose two boxes that you have marked in the above table and give me an example from your own teaching to show me why you believe those statements.
- What is important to you as a teacher?
- How do you see your role in a co-operative classroom?

### Step Three:

Join with another pair:

- Explain what your partner has told you about his/her beliefs.
- Discuss similarities and differences.

## Jigsaw Activity



***Task:***  
***Identify the principles of successful cooperative learning***

# JIGSAW READINGS: GROUP 1.

## What Makes Cooperative Groups Work?

*"Just because you put students in groups doesn't mean they'll work as a team."*

Educators fool themselves if they think well-meaning directives to "work together," "cooperate," and "be a team," will be enough to create cooperative efforts among group members. Placing students in groups and telling them to work together does not in and of itself result in cooperation. Not all groups are cooperative. Sitting in groups, for example, can result in competition at close quarters or individualistic effort with talking. To structure lessons so students do in fact work cooperatively with each other requires an understanding of the components that make cooperation work.

The essential components of cooperation are positive interdependence, face-to-face promotive interaction, individual and group accountability, interpersonal and small group skills, and group processing (Johnson, Johnson, & Holubec, 1993). Systematically structuring those basic elements into group learning situations helps ensure cooperative efforts and enables the disciplined implementation of cooperative learning for long-term success.

### **The first and most important element in structuring cooperative learning is positive interdependence.**

Positive interdependence is successfully structured when group members perceive that they are linked with each other in a way that one cannot succeed unless everyone succeeds. Group goals and tasks, therefore, must be designed and communicated to students in ways that make them believe they sink or swim together. When positive interdependence is solidly structured, it highlights that:

- (a) each group member's efforts are required and indispensable for group success and
- (b) each group member has a unique contribution to make to the joint effort because of his or her resources and/or role and task responsibilities.

Doing so creates a commitment to the success of group members as well as one's own and is the heart of cooperative learning. If there is no positive interdependence, there is no cooperation.

The nine ways in which positive interdependence can be structured are as follows:

1. Goal interdependence-The group has a common goal and every member of the team is expected to achieve it.
2. Incentive interdependence-Everyone receives the same reward but only if every member of the team succeeds.
3. Resource interdependence-Resources, information, and material are limited so that students are obliged to work together and cooperate in sharing available resources.
4. Sequence interdependence-The overall task is divided into a sequence of subtasks. Individual group members perform their particular tasks as part of a predetermined order.
5. Role interdependence-Each group member is assigned a role with specific responsibilities. Each role contributes to and supports the task's completion.
6. Identity interdependence-The group establishes a mutual identity through a name, flag, logo, or symbol. These can be augmented by a group song or cheer.
7. Outside force interdependence-The group, as a whole, competes against other groups.
8. Simulation interdependence-The group members imagine that they are in a situation or role where they must collaborate to be successful.
9. Environmental interdependence-The group members work together within a specified physical space, such as a section of the classroom.

#### **Tutor actions**

- Set up tasks which cannot be completed without input from each team member
- Reflect on the nine positive interdependencies and how they can be incorporated into the task

#### **Avoid:**

- Allowing one student to be carried by the others
- Allowing one student to do the work for the group
- Holding up one person or group as "best"

#### **The second basic element of cooperative learning is promotive interaction, preferably face-to-face.**

Students need to do real work together in which they promote each other's success by sharing resources and helping, supporting, encouraging, and applauding each other's efforts to achieve. There are important cognitive activities and interpersonal dynamics that can only occur when students promote each other's learning. This includes orally explaining how to solve problems, teaching one's knowledge to others, checking for understanding, discussing concepts being learned, and connecting present with past learning. Each of those activities

can be structured into group task directions and procedures. Doing so helps ensure that cooperative learning groups are both an academic support system (every student has someone who is committed to helping him or her learn) and a personal support system (every student has someone who is committed to him or her as a person). It is through promoting each other's learning face-to-face that members become personally committed to each other as well as to their mutual goals.

**Tutor actions:**

- Ensure groups set up processes that encourage knowledge and resource sharing
- Foster group and personal support

**The third basic element of cooperative learning is individual and group accountability.**

Two levels of accountability must be structured into cooperative lessons. The group must be accountable for achieving its goals and each member must be accountable for contributing his or her share of the work. Individual accountability exists when the performance of each individual is assessed and the results are given back to the group and the individual in order to ascertain who needs more assistance, support, and encouragement in learning. The purpose of cooperative learning groups is to make each member a stronger individual in his or her right. Students learn together so that they subsequently can gain greater individual competency.

**Tutor actions:**

- Keep the size of the group small. The smaller the size of the group, the greater the individual accountability may be
- Give an individual test to each student at the end of the assessment
- Randomly examine students orally by calling on one student to present his or her group's work to the teacher (in the presence of the group) or to the entire class
- Observe each group and record the frequency with which each member contributes to the group's work
- Colour code or sign individual contributions
- Assign one student in each group the role of checker. The checker asks other group members to explain the reasoning and rationale underlying group answers
- Have students teach what they learned to someone else
- Assign roles, especially gatekeeper
- Use structures like Jigsaw, Numbered Heads, Roundtable, Colour-Coded Cards
- Base team scores on individual achievement

**The fourth basic element of cooperative learning is teaching students the required interpersonal and small group skills.**

Cooperative learning is inherently more complex than competitive or individualistic learning because students have to engage simultaneously in task work (learning academic subject matter) and teamwork (functioning effectively as a group). Social skills for effective cooperative work do not magically appear when cooperative lessons are employed. Instead, social skills must be taught to students just as purposefully and precisely as academic skills. Leadership, decision-making, trust-building, communication, and conflict-management skills empower students to manage both teamwork and task work successfully. Since cooperation and conflict are inherently related the procedures and skills for managing conflicts constructively are especially important for the long-term success of learning groups.

**Tutor actions:**

Help students develop social skills naturally or by specific teaching of the required skills in the following areas:

- Leadership, Decision-making, Trust-building, Communication, Conflict-management skills
- Provide opportunities for students to naturally use social skills in fun or high interest topics
- Teach, model, chart, process (provide feedback), role play, and reinforce social skills,
- Assign roles and skills and teach associated response modes and gambits.

**Avoid:**

- Placing students in situations before they have appropriate skills, e.g., placing them in conflict before they have conflict resolution skills

**The fifth basic element of cooperative learning is group processing.**

Group processing exists when group members discuss how well they are achieving their goals and maintaining effective working relationships. Groups need to describe what member actions are helpful and unhelpful and make decisions about what behaviors to continue or change. Continuous improvement of the processes of learning results from the careful analysis of how members are working together and determining how group effectiveness can be enhanced.

**Tutor actions:**

- Require group members to discuss how well they are achieving their goals and maintaining effective working relationships
- Describe what member actions are helpful and not helpful
- Make decisions about what behaviours to continue or change

**Avoid:**

- Telling students to discuss, cooperate, practice, or produce a product without providing structures, models, and norms to reflect on

Adapted and reproduced with permission from:

Johnson, R.T., & Johnson, D.W. (n.d.). *Cooperative Learning*.

Retrieved April 23, 2009, from <http://www.co-operation.org/pages/cl.html>

# JIGSAW READINGS: GROUP 2.

## Types of cooperative learning groups

Many types of groups can be used. Three examples (informal, formal, and base) are described below.

**Informal groups** can:

- have a short lifetime ranging from a few minutes to the class period
- are generally created quickly or ad hoc (e.g., the instructor may say "discuss this concept" or "discuss this question with your neighbours")
- have little structure or format
- have new group members with each new class day
- are especially useful during lectures because they can break the lecture in mini-lectures, and may provide a quick check on student comprehension

**Formal groups** on the other hand:

- last several days to several weeks
- require more planning as to the size and composition of the group
- have greater structure
- have a specific purpose (e.g., a particular task to accomplish)
- have the same group members throughout their existence.

Finally, **base groups** serve a broader purpose. They:

- last the entire semester (or even several semesters)
- meet regularly
- require planning as to the size and composition of the group
- personalize the task at hand by providing support, encouragement, and assistance between group members
- have a specific purpose (e.g., a particular task to complete)
- have a constant membership.

Not all groups are cooperative groups. Johnson & Johnson (1998) state that placing people in the same room, seating them together, telling them they are a cooperative group, and advising them to "cooperate," does not make them a cooperative group. Study groups, project groups,

lab groups, committees, task forces, departments, and councils are groups, but they are not necessarily cooperative. Johnson & Johnson classify groups into four categories:

**1. Pseudo groups** are groups whose members have been assigned to work together but they have no interest in doing so. There is competition at close quarters--members may block each other's achievement, communicate and coordinate poorly, mislead and confuse each other, loaf, and seek a free ride. The result is that the sum of the whole is less than the potential of the individual members.

**2. Traditional groups** are groups whose members agree to work together, but see little benefit from doing so. There is individualistic work with talking. Members interact primarily to share information and clarify how to complete the tasks. Then they each do the work on their own. Their achievements are often individually recognized and rewarded. The result is that some members benefit, but others may be more productive working alone.

**3. Cooperative groups** are groups whose members commit themselves to the common purposes of maximizing their own and each other's success. Its defining characteristics are a compelling purpose to maximize all members' productivity and achievement, holding themselves and each other accountable for contributing their share of the work to achieve the group's goals, promoting each other's success by sharing resources and providing each other support and encouragement, using social skills to coordinate their efforts and achieve their goals, and analyzing how effectively they are achieving their goals and working together. The result is that the sum of the whole is greater than the potential of the individual members.

**4. High-performance cooperative groups** are groups that meet all the criteria for a cooperative group and outperform all reasonable expectations, given their membership.

Adapted and reproduced with permission from:

Johnson, D. W., Johnson, R. T., and Smith, K. A. (1998). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book Company.

Johnson, D. W., Johnson, R. T. (1998). *Cooperative Learning and Social Interdependence Theory*. Retrieved April 23, 2009, from <http://www.co-operation.org/pages/SIT.html>

## **Heterogeneous or homogeneous grouping?**

Many experts on cooperative learning recommend that students usually be placed by the teacher in groups that are heterogeneous on such dimensions as past achievements, diligence, ethnicity and sex. Mixing students by achievement is encouraged in order to promote peer tutoring (which can benefit both tutor and tutee), and to provide low achievers with models of good study habits, and to improve relations between students. Studies done by Webb and her colleagues (Farviar and Webb, 1993) support the view that properly structured cooperative learning does indeed benefit both high and low achievers. They found that when students provided group mates only with answers to mathematical problems, neither high or low achievers benefited. However, when explanations were given as to how to complete the problems, both the askers and the givers gained.

Improved relations is also a reason given for mixing students of different ethnicities in the same group. Working together toward a common goal can help dissolve barriers and build friendships. Additionally, students from different ethnic groups often bring unique perspectives to group discussions. This combining of perspectives is also a rationale for mixing female and male students. The resulting diversity of perspectives can enrich students' thinking.

It should be noted, however, that while many experts on cooperative learning advocate that heterogeneous grouping be the main mode of grouping, they also believe that homogeneous groups should be used some of the time.

One argument in support of heterogeneous grouping comes from Maurice Galton, who has done extensive research on cooperative learning in schools in the United Kingdom. He was asked his view on the controversy over whether heterogeneous grouping was an efficient use of class time. He responded that part of the answer depends on one's view of the role of education. Is it only to help students pass tests, or is it also to help create a society in which everyone cares about and cooperates with one another despite their differences?

If you choose to use heterogeneous groups you may find that students want to choose their own group mates. The research suggests, however, that usually heterogeneous groups are best achieved by having the teacher choose who will be in which group. When students select their group mates, they often choose people most like themselves. This can lead to cliques and other factors which work against cohesive classroom relations.

**Reproduced and adapted with permission from:**

Jacobs, G., Lee, G & Ball, J. (1997) *Cooperative Learning: A sourcebook of lesson plans for teacher education*. Australia: Hawker Brownlow Education.

## Forming teams: Questions and Answers

*I've seen lots of rules for forming teams—make them heterogeneous in ability levels and learning styles and MBTI types and homogeneous in interests and hobbies, avoid outnumbered minorities, put people together with common blocks of time to meet outside class, and several others. How can I do all that simultaneously?*

You can't.

*OK, which rules should I use?*

It depends on your goals. If you want to conduct a classroom research study that investigates, say, the effects on learning of personality type distributions of workgroup members, you would obviously want to use Myers-Briggs Type Indicator profiles in forming teams. If you have no research agenda but just want to teach your course effectively, we recommend making ability heterogeneity your primary criterion. The drawbacks of groups composed entirely of weak students are obvious, and groups of all strong students are likely to parcel out the work rather than engaging in the group discussions and informal tutoring sessions that lead to many of the proven instructional benefits of cooperative learning. Also, if the teams will be required to meet outside class, try to form teams of students who have common blocks of unscheduled time. Let the hobbies and learning styles go.

*What about the outnumbered minorities?*

That one is a two-edged sword, and you'll hear conflicting opinions about it from different people. Here's what we recommend. First, the only minorities you should be concerned about are those at risk academically, for whom the dropout rate is historically greater than the overall average dropout rate in your field. An example would be women in engineering. Then, early in the curriculum when the dropout risk is greatest—say, in the freshman and sophomore years—try to avoid groups in which members of those minorities are isolated. In engineering groups with two or three men and one woman, for example, the woman will often be relegated (or will relegate herself) to a passive role in the group and so lose much of the benefit of cooperative learning. Later in the curriculum, as the dropout risk decreases and the students are preparing to enter the world of work, you should remove this restriction on group formation. The minorities will often find themselves isolated in workgroups on the job, and they may as well start learning how to deal with it while still in college.

*How can I find out at the beginning of the semester about the students' abilities and when they can meet outside class?*

You can have them fill out a questionnaire on the first day in which they give their name, grades in prerequisite courses (or high school grades for first-semester freshmen), and if you plan to avoid isolated minorities, sex and ethnicity. (Tell the students in a footnote that if they would rather not respond to the last two items they may skip them.) On the same form, give them an hour-by-hour matrix of the week including Saturday and Sunday and ask them to cross out the times when they cannot meet outside class because of scheduling conflicts. After class, form 3- and 4-person teams that are heterogeneous in ability (as measured by the grades in the prerequisites) with common blocks of available time outside class and, when relevant, no isolated at-risk minorities. Announce the groups in the second class period, make any necessary adjustments (such as dealing with students who missed the first day), and go from there.

*I have students entering the class and others dropping it throughout the first two weeks of the term. How can I form stable groups on the first day?*

You can form practice groups by random assignment and announce that you'll form the permanent ones two weeks later. Sometime during those two weeks, give a quiz, and at the end of the two weeks have the students fill out the questionnaires. Then form the permanent groups, using the quiz grades along with the grades in the prerequisites as measures of ability level.

*I have a lot of commuting students with full-time jobs who cannot get to campus to meet with a group outside class on a regular basis. What do I do about them?*

There are several approaches you can use. The first is to reserve a portion of the regular class time each week for groups to work together. If that's not feasible or the amount of available time is inadequate for your assignments, you can form the commuters into virtual groups who "meet" via e-mail, instant messaging, computer conferencing, or telephone conferencing, and occasionally (if possible) in person. The students in these groups may not get the full benefit of cooperative learning, but it's better than nothing. If you have just a few students in that category and you cannot or don't want to form virtual groups, you can allow them to work individually and make yourself available for consultation at times convenient for them and for you.

*I have some students who complain bitterly about having to work in teams, especially if they can't choose their own teammates. Should I let them work individually?*

We strongly recommend against it. As we tell our students, we're sorry if they're unhappy about having to work in teams but the truth is that our job is not to make them happy—it is to prepare them to be professionals. On their first day on the job, two things will *not* happen. First, they will not be asked whether they prefer to work alone or with others, but will immediately be placed in one or more work groups. Second, they will not be presented with a list of all of the company employees and asked whom they would like to work with; rather, they will be told who else is in their group, and their job will probably depend on how well they work with those people. Since that's what they'll be doing out there, our job is to help them learn how to do it here. In general, we find that we can minimize resistance by telling the students right from the start why we are using groups, stressing in our explanation the benefits cooperative learning can give them and offering to direct them to the research that proves it. (They'll probably never take you up on it, but you should be prepared to do it in the unlikely event that someone does.)

**Reproduced with permission from:**

**Felder, R., & Brent, R. (2001). Effective strategies for cooperative learning. *Journal of Cooperation and Collaboration in College*, 10 (2), 69–75.**

# JIGSAW READINGS: GROUP 3.

## Coping with hitchhikers and couch potatoes on teams

Let's imagine you have been assigned to a group this semester with three others: Mary, Henry, and Jack. Mary is okay-she's not good at solving problems, but she tries hard, and she willingly does things like get extra help from the professor. Henry is irritating. He's a nice guy, but he just doesn't put in the effort to do a good job. He'll sheepishly hand over partially worked homework problems and confess to spending the weekend watching TV. Jack, on the other hand, has been nothing but a problem. Here are a few of the things Jack has done:

- \* When you tried to set up meetings at the beginning of the semester, Jack just couldn't meet, because he was too busy.*
- \* Jack infrequently turns in his part of the homework. When he does, it's almost always wrong-he obviously spent just enough time to scribble something down that looks like work.*
- \* Jack has never answered phone messages. When you confront him, he denies getting any messages. You e-mail him, but he's "too busy to answer."*
- \* Jack misses every meeting-he always promises he'll be there, but never shows up.*
- \* His writing skills are okay, but he can't seem to do anything right for lab reports. He loses the drafts, doesn't reread his work, leaves out tables, or does something sloppy like write equations by hand. You've stopped assigning him work because you don't want to miss your professor's strict deadlines.*
- \* Jack constantly complains about his fifty-hour work weeks, heavy school load, bad textbooks, and terrible teachers. At first you felt sorry for him-but recently you've begun to wonder if Jack is using you.*
- \* Jack speaks loudly and self-confidently when you try to discuss his problems-he thinks the problems are everyone else's fault. He is so self-assured that you can't help wondering sometimes if he's right.*

Your group finally was so upset they went to discuss the situation with Professor Distracted. He in turn talked, along with the group, to Jack, who in sincere and convincing fashion said he

hadn't really understood what everyone wanted him to do. Dr. Distracted said the problem must be the group was not communicating effectively. He noticed you, Mary, and Henry looked angry and agitated, while Jack simply looked bewildered, a little hurt, and not at all guilty. It was easy for Dr. Distracted to conclude this was a dysfunctional group, and everyone was at fault-probably Jack least of all.

**The bottom line:** You and your teammates are left holding the bag. Jack is getting the same good grades as everyone else without doing any work. Oh yes-he managed to make you all look bad while he was at it.

### **What this group did wrong: Absorbing**

This was an 'absorber' group. From the very beginning they absorbed the problem when Jack did something wrong, and took pride in getting the job done whatever the cost. Hitchhikers count on you to act in a self-sacrificing manner. However, the nicer you are (or the nicer you think you are being), the more the hitchhiker will be able to hitchhike their way through the university-and through life.

### **What this group should have done: Mirroring**

It's important to reflect back the dysfunctional behaviour of the hitchhiker, so the hitchhiker pays the price-not you. Never accept accusations, blame, or criticism from a hitchhiker. Maintain your own sense of reality despite what the hitchhiker says, (easier said than done). Show you have a bottom line: there are limits to the behaviour you will accept. Clearly communicate these limits and act consistently on them. For example, here is what the group could have done:

*\* When Jack couldn't find time to meet in his busy schedule, even when alternatives were suggested, you needed to decide whether Jack was a hitchhiker. Was Jack brusque, self-important, and in a hurry to get away? Those are suspicious signs. Someone needed to tell Jack up front to either find time to meet, or talk to the professor.*

*\* If Jack turns nothing in, his name does not go on the finished work. (Note: if you know your teammate is generally a contributor, it is appropriate to help if something unexpected arises.) Many professors allow a team to fire a student, so the would-be freeloader has to work alone the rest of the semester. Discuss this option with your instructor if the student has not contributed over the course of an assignment or two.*

*\* If Jack turns in poorly prepared reports, you must tell him he has not contributed meaningfully, so his name will not go on the submitted work. No matter what Jack says, stick to your guns! If Jack gets abusive, show the professor his work. Do this the first time the junk is submitted, before Jack has taken much advantage—not after a month, when you are really getting frustrated.*

*\* Set your limits early and high, because hitchhikers have an uncanny ability to detect just how much they can get away with.*

*\* If Jack doesn't respond to e-mails, answer phone messages, or show up for meetings, don't waste more time trying to contact him.*

*\* Keep in mind the only one who can handle Jack's problems is Jack. You can't change him—you can only change your own attitude so he no longer takes advantage of you. Only Jack can change Jack—and he will have no incentive to change if you do all his work for him.*

People like Jack can be skilled manipulators. By the time you find out his problems are never-ending, and he himself is their cause, the semester has ended and he is off to repeat his manipulations on a new, unsuspecting group. Stop allowing these dysfunctional patterns early in the game—before the hitchhiker takes advantage of you and the rest of your team!

## **Henry, the Couch Potato**

But we haven't discussed Henry yet. Although Henry stood up with the rest of the group to try to battle against Jack's irrational behavior, he hasn't really been pulling his weight. (If you think of yourself as tired and bored and really more interested in watching TV than working on your homework—everyone has had times like these—you begin to get a picture of the couch potato.)

You will find the best way to deal with a couch potato like Henry is the way you deal with a hitchhiker: set firm, explicit expectations—then stick to your guns. Although couch potatoes are not as manipulative as hitchhikers, they will definitely test your limits. If your limits are weak, you then share the blame if you have Henry's work to do as well as your own.

## **But I've Never Liked Telling People What to Do!**

If you are a nice person who has always avoided confrontation, working with a couch potato or a hitchhiker can help you grow as a person and learn the important character trait of firmness. Just be patient with yourself as you learn. The first few times you try to be firm, you may find yourself thinking—'but now he/she won't like me—it's not worth the pain!' But many people just

like you have had exactly the same troubled reaction the first few (or even many) times they tried to be firm. Just keep trying—and stick to your guns! Someday it will seem more natural and you won't feel so guilty about having reasonable expectations for others. In the meantime, you will find you have more time to spend with your family, friends, or schoolwork, because you aren't doing someone else's job along with your own.

## **Common Characteristics that Allow a Hitchhiker to Take Advantage**

- *Unwillingness to allow a slacker to fail and subsequently learn from their own mistakes.*
- *Devotion to the ideal of 'the good of the team'— without common-sense realization of how this can allow others to take advantage of you. Sometimes you show (and are secretly proud of) irrational loyalty to others.*
- *You like to make others happy even at your own expense.*
- *You always feel you have to do better—your best is never enough.*
- *Your willingness to interpret the slightest contribution by a slacker as 'progress.'*
- *You are willing to make personal sacrifices so as to not abandon a hitchhiker—without realizing you are devaluing yourself in this process.*
- *Long-suffering martyrdom—nobody but you could stand this.*
- *The ability to cooperate but not delegate.*
- *Excessive conscientiousness.*
- *The tendency to feel responsible for others at the expense of being responsible for yourself.*

## **A related circumstance: you're doing all the work**

As soon as you become aware everyone is leaving the work to you—or doing such poor work that you are left doing it all, you need to take action. Many professors allow you the leeway to request a move to another team. (You cannot move to another group on your own.) Your professor will probably ask some questions before taking the appropriate action.

## **Later on—out on the job and in your personal life**

You will meet couch potatoes and hitchhikers throughout the course of your professional career.

Couch potatoes are relatively benign, can often be firmly guided to do reasonably good work, and can even become your friends. However, hitchhikers are completely different people—ones who can work their way into your confidence and then destroy it. (Hitchhikers may infrequently try to befriend you and cooperate once you've gained their respect because they can't manipulate you. Just because they've changed their behavior towards you, however, doesn't mean they won't continue to do the same thing to others.) Occasionally, a colleague, subordinate, supervisor, friend, or acquaintance could be a hitchhiker. If this is the case, and your personal or professional life is being affected, it will help if you keep in mind the techniques suggested above.

**Adapted and reproduced with permission from:**

**Oakley, B., Felder, R., Brent, R., & Elhajj, I. (2004). Turning student groups into effective teams. *Journal of Student Centered Learning* 2 (1), 9-34.**

**If I assign homework, presentation, or projects to groups, some students will “hitchhike,” getting credit for work in which they did not actively participate.**

This is always a danger, although students determined to get a free ride will usually find a way whether the assignments are done individually or in groups. In fact, cooperative learning that includes provisions to assure individual accountability – such as individual tests on the material in the group assignments – cuts down on hitchhiking (Johnson et al.1991a,b). Students who don't usually participate in the homework will generally fail the tests, especially if the assignments are challenging ( as they always should be if they are assigned to groups) and the tests truly reflect the skills involved in the assignments. If the group work only counts for a small fraction of the overall course grade (say 10-20%), hitchhikers can get high marks on the homework and still fail the course.

One way to detect and discourage hitchhiking is to have team members individually or collectively distribute the total points for an assignment among themselves in proportion to the effort each on put in. Students want to be nice to one another and so may agree to put names on assignments of teammates who barely participated, but they are less likely to credit them with high levels of participation. Another technique is to call randomly on individual team members to present sections of project reports or partial solutions to problems, with everyone in the group getting a grade based on the selected student's response. The best students will then make it their business to see that their teammates all understand the complete solutions, and they will also be less inclined to put a hitchhiker's name on the written product and risk having him or her be the designated presenter.

**Reproduced with permission from:**

**Felder, R.M., & Brent, R. (1996). Navigating the bumpy road to student-centred instruction. *College Teaching*, 44 (2), 43-47.**

# JIGSAW READINGS: GROUP 4.

## Group Processing

In order to achieve, students in cooperative learning groups have to work together effectively. Effective group work is influenced by whether or not groups periodically reflect on how well they are functioning and plan how to improve their work processes. A **process** is an identifiable sequence of events taking place over time, and **process goals** refer to the sequence of events instrumental in achieving outcome goals.

**Group processing** may be defined as reflecting on a group session to:

- (a) describe what member actions were helpful and unhelpful and
- (b) make decisions about what actions to continue or change.

The purpose of group processing is to clarify and improve the effectiveness of the members in contributing to the joint efforts to achieve the group's goals.

Yager, Johnson, and Johnson (1985) examined the impact on achievement of:

- (a) cooperative learning in which members discussed how well their group was functioning and how they could improve its effectiveness
- (b) cooperative learning without any group processing, and
- (c) individualistic learning.

The results indicate that the high-, medium-, and low-achieving students in the cooperation with group processing condition achieved higher on daily achievement, post-instructional achievement, and retention measures than did the students in the other two conditions. Students in the cooperation without group processing condition, furthermore, achieved higher on all three measures than did the students in the individualistic condition.

Putnam, Rynders, Johnson, and Johnson (1989) conducted a study in which there were two conditions: cooperative learning with social skills training and group processing and cooperative learning without social skills training and group processing. Forty-eight fifth-grade students (32 nonhandicapped and 16 students with IQ's ranging from 35 to 52) participated in the study. In the cooperative learning with social skills training condition the teacher gave students examples of specific cooperative behaviors to engage in, observed how frequently students engaged in the skills, gave students feedback as to how well they worked together, and had students discuss for five minutes how to use the skills more effectively in the future. In the uninstructed cooperative groups condition students were placed in cooperative groups and

worked together for the same period of time with the same amount of teacher intervention (aimed at the academic lesson and unrelated to working together skillfully). Both nonhandicapped and handicapped students were randomly assigned to each condition. They found more positive relationships developed between handicapped and nonhandicapped students in the cooperative skills condition and that these positive relationships carried over to post-instructional free-time situations.

Johnson, Johnson, Stanne, and Garibaldi (1990) conducted a study comparing cooperative learning with no processing, cooperative learning with teacher processing (teacher specified cooperative skills to use, observed, and gave whole class feedback as to how well students were using the skills), cooperative learning with teacher and student processing (the teacher specified cooperative skills to use, observed, gave whole class feedback as to how well students were using the skills, and had learning groups discuss how well they interacted as a group), and individualistic learning. Forty-nine high ability high Black American school seniors and entering college freshmen at Xavier University participated in the study. A complex computer-assisted problem-solving assignment was given to all students. All three cooperative conditions performed higher than did the individualistic condition. The combination of teacher and student processing resulted in greater problem solving success than did the other cooperative conditions.

Archer-Kath, Johnson, and Johnson (1994) provided learning groups with either individual or group feedback on how frequently members had engaged in targeted social skills. Each group had five minutes at the beginning of each session to discuss how well the group was functioning and what could be done to improve the group's effectiveness. Group processing with individual feedback was more effective than was group processing with whole group feedback in increasing students':

- (a) achievement motivation, actual achievement, uniformity of achievement among group members, and influence toward higher achievement within cooperative learning groups
- (b) positive relationships among group members and between students and the teacher, and
- (c) self-esteem and positive attitudes toward the subject area.

The results of these studies indicated that engaging in group processing clarifies and improves the effectiveness of the members in contributing to the joint efforts to achieve the group's goals, especially when specific social skills are targeted and students receive individual feedback as to how frequently and how well they engaged in the skills.

**Reproduced with permission from:**

**Johnson, D.W., & Johnson, R. T. (1999). Cooperative Learning and social interdependence theory. In R. Scott (Ed). *Theory and research on small groups*. New York: Plenum Press.**

**Examples of group processing documents on the following pages.**

# Examples of Group Processing Documents:

You might like to use these, or there are plenty of other examples on the internet.

**a) Reproduced with permission from:**

**Oakley, B., Felder, R. M., Brent, R., & Elhadj, I. (2004). Turning student groups into effective teams. *Journal of Student Centred Learning* 2 (1), 9-34.**

## EVALUATION OF PROGRESS TOWARD EFFECTIVE TEAM FUNCTIONING<sup>†</sup>

Your Team Name: \_\_\_\_\_

Symptoms of Internal Meeting Problems	Usually	Sometimes	Hardly Ever
Team meetings generally begin 5-15 minutes late			
Members often arrive late, leave early, or never even show up for the meetings.			
No agenda exists—members simply have a vague notion of what they want to accomplish.			
One or two members monopolize discussion throughout the meeting.			
Members have not read the assignment, performed the necessary background research, or done what they were expected to do. Consequently, individuals are poorly prepared for the meeting.			
With words or by appearance, some members clearly convey that they would rather be elsewhere.			
Members constantly interrupt each other or talk in pairs without listening to the individual who has the floor.			
Issues never get resolved, only put on the back burner until next time.			
No follow-up action plan is developed. Members are confused with regard to what the next step is and who is responsible for performing it.			
The same individual or individuals end up doing the majority of the work. The meetings run on and on and on with little to show for the time spent on them			
Assignments are not completed on time or are completed poorly.			

<sup>†</sup>Adapted from Jack McCourty and Kenneth P. De Meuse, *The Team Developer: An Assessment and Skill Building Program*, 2001, John Wiley & Sons, New York.

**b)**

## How did we work today?

1. How well did your group share the load today?



Right on



Pretty good



OK



Not so good



Missed the mark

---

2. How well did your group stay on the job today?



Right on



Pretty good



OK



Not so good



Missed the mark

---

3. What did you do to help one another? Did you ...

(a) try to make each other feel good?



Right on



Pretty good



OK



Not so good



Missed the mark

(b) listen to one another?



Right on



Pretty good



OK



Not so good



Missed the mark

(c) try to help other members say what they think?



Right on



Pretty good



OK



Not so good



Missed the mark

---

(d) take turns in talking and listening?



Right on



Pretty good



OK



Not so good



Missed the mark

---

4. How did you show one another that you were really listening?

(Tick  the things that you did.)

- Nodded to show that you were listening.
  - Said: "that's a good idea!" or "That's good" when you liked an idea.
  - Asked questions.
  - Listened and tried to answer questions.
  - Tried sometimes to add on information to another member's thoughts or ideas.
- 

5. Overall, how successful was your group today?



Right on



Pretty good



OK



Not so good



Missed the mark

c)

## GROUP PROCESSING RECORD

Group:

Date:

As a team, decide which answer best suits the way your group worked together today and complete the final sentences:

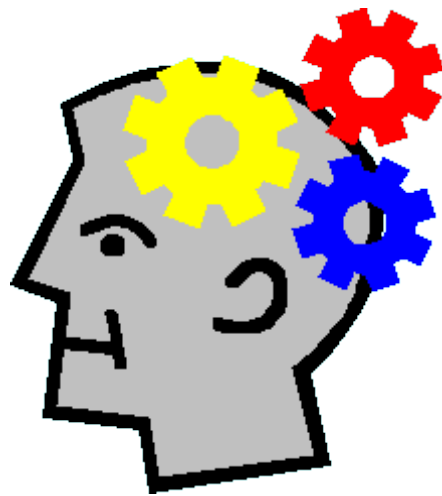
1. We started on time, we kept to time during the meeting, and we finished on time. YES/NO
2. We encouraged one another and cooperated with one another. YES/NO
3. We all participated in the discussion. YES/NO
4. We all listened to one another's ideas without interrupting. YES/NO
5. We made sure that the work is being shared. YES/NO
6. We had developed a clear action plan at the end of the meeting. YES/NO
7. At this meeting we did particularly well at

.....  
.....  
.....

8. Next time we could improve at

.....  
.....  
.....

# Cooperative Learning Techniques



# Constructive Controversy

1. The teacher lectures to the class on the topic of the unit.
2. The students are placed in groups of four, and each foursome is divided into pairs. Each pair is given material supporting one of two sides of a controversial issue connected to the unit's topic. Thus, one pair in each foursome has material on one side of the issue, and the other pair has material supporting another side. Using the teacher-prepared material and their own ideas, the pairs prepare to present their assigned positions to the other pair in their foursome.
3. The pairs present their assigned sides of the issue to each other. Each side takes notes during the other's presentation. Then they debate the issue, defending their assigned positions.
4. The pairs then change sides and prepare to present and defend the side of the issue previously presented by the other pair. They are not given the teacher presented material supporting that side.
5. The foursomes repeat step three with their newly assigned positions.
6. The students are no longer assigned a position. Instead, they use their own opinions and try - although it is not necessary that they actually do -to reach a consensus on the issue within their groups.
7. Students take a quiz, write an essay, or work on other tasks based on the topic of the controversy.

Reproduced with permission from:

Johnson, D. W., & Johnson, R. T. (1999). *Learning together and alone: Cooperative, competitive and individualistic learning* (5<sup>th</sup> ed.). Boston: Allyn & Bacon.

# Constructive controversy

## Ethnically diverse groups: problem or promise?

### Problem?

“Chinese students rely almost entirely on Kiwi students...in this way we can get high marks...we trust them and believe that they can get good marks for us.”

(Chinese student)

“[A disadvantage of multi cultural groups is ] having to work with people from other cultures with lower levels of English.” (NZ European student)

“I think cultural upbringing is also an issue. In our group discussion Chinese students do not want to disagree with others even though we think they are wrong.... our educational system has cultivated our personalities.” (Chinese student)

“At meetings it is difficult to use my poor English to express complex ideas. Kiwi students, because of their English skills, often have good ideas that can be expressed in their own language but I cannot do so. Sometimes when they have heated debate it is very difficult for me to jump in.” (Chinese student)

“Not all people are willing to make an effort. In a multi cultural group I was left to do 80% of the work. In a non mixed race group this problem did not exist.”

(NZ European student)

“There is a common belief that tertiary students acquire intercultural communication competence through interacting with each other in multicultural classrooms. Much research undertaken in Australia, however, indicates that having culturally diverse classrooms will not, by itself, necessarily promote student development in this area ....often the experience [of multi cultural teams] can reinforce negative stereotypes instead of promoting understanding.”

(Carmela Briguglio, 2006)

Culturally heterogeneous groups rarely cohere as rapidly as more homogeneous groups: effective functioning may not begin until 35 – 40 hours of extended teamwork. (Watson, Kumar & Michaelson, 1993)

Research is not clear on whether heterogeneous groups penalise high ability students. They may do. (Webb, 2001)

“Diversity can result in lower achievement, closed mind rejection of new information, increased egocentrism, and negative relationships characterised by hostility, rejection, divisiveness, scapegoating, bullying, stereotyping, prejudice and racism.” (Johnson & Johnson, 1989)

“I hate it [group work]!” (NZ European student)

Research demonstrates that Caucasians have a lower preference for working collaboratively in a group than other ethnic groups. (Jeffrey, 2009)

“It takes a huge amount of effort on my part to get international students to accept this as a valid way of learning – they are culturally unprepared for it.” (NZ tutor)

“Diversity lowers productivity. Diversity creates difficulties in communication, coordination, and decision making. These difficulties result in spending more time trying to communicate and less time completing the task. Productivity suffers.” Johnson & Johnson, 2006 (Joining together)

## Promise?

“[I liked] sharing ideas and learning from others from different backgrounds.”  
(NZ European student)

“[I liked] getting to know more people from different cultures.” (Russian student)

“As students it is important to have contacts with Kiwi students. We are learning and being able to communicate with Kiwi students is one of our leaning objectives.” (Chinese student)

“Teaching practices that are particularly effective for Pacific Island learners include peer teaching and learning and group work.” (Designing for Diversity, Ministry of Education)

“Teachers who espouse and enact power – sharing theories of practice will better enable previously marginalized students to more successfully participate and engage in educational systems on their own culturally constituted terms... a number of changes occur when teachers are assisted to undertake a change from traditional, transmission type classrooms to more interactive, discursive classrooms.” (Bishop et al Te Kotahitanga: addressing educational disparities facing Maori students in New Zealand)

Multiculturalism in groups has no significant impact on grades (in fact a positive impact has been detected). (De Vita, 2002)

“Overall, most studies find that cooperative learning in ethnically diverse groups has a positive impact on self esteem, intergroup relations and academic achievement compared to learning in a traditional classroom.”

(James Lynch, Celia Modgil, Sohan Modgil, 1992)

Research evidence also indicates that if culturally diverse teams are well managed, positive achievements are likely to be the result (Caspersz , Skene, Wu & Boland, 2004)

Teaching students to work in culturally mixed teams is essential preparation for the workplace. (Crosling & Ward,2001)

“We could tell our students that in order to achieve higher results they should form gender balanced and nationally homogenous groups.... [but] as educators we should encourage our students to form ethnically diverse teams for the sake of their future success in a diverse world.” (Collins,2007)

“Beaver and Tuck’s (1998) study of Asian, Pacific Island and Pakeha students in New Zealand revealed that having classes with a mixture of cultures and mixing cultures within small group teaching were significantly more important to Asian and Pacific Island students.” (Ward,2005)

Evidence that cooperative learning in culturally mixed groups produces higher levels of academic achievement across ability groups. (Slavin & Oickle 1981)

Culturally mixed student groups enhance cross ethnic friendships. (Rzoska & Ward, 1991)

“It is apparent that cooperative learning holds great potential for enhancing academic performance and increasing social cohesion among international and domestic students.” (Ward, 2005) International students want more contact. (Ward, 2005)

“Cooperative learning experiences, compared with competitive, individualistic, and “traditional” instruction, promote considerably more liking among students.” (Johnson & Johnson,1989)

Research shows that heterogeneous grouping generally benefits low-ability students. (Webb, 2001)

“Diversity among students can result in increased achievement and productivity, creative problem solving, growth in cognitive and moral reasoning, increased perspective-taking ability, improved relationships, and general sophistication in interacting with peers from a variety of cultural and ethnic backgrounds.”

(Johnson & Johnson, 1989)

A few studies have found positive effects of cooperative learning on self reported cross-racial friendships outside of class... such research will illuminate the important role schools can play in reducing racism, prejudice and discrimination in the larger society.” (Slavin & Cooper, 1999)

#### References:

Johnson, D.W., & Johnson R.T. (1989). *Cooperative learning, values, and culturally plural classrooms*. Retrieved February 17, 2010, from <http://www.cooperation.org/pages/CLandD.html>

Watson, W.E., K. Kumar. and L.K. Michaelsen. 1993. Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task groups. *The Academy of Management Journal* 36, no. 3: 590-602.

## **Practical guidelines for using CL with multicultural classes:**

- Use teambuilding exercises when groups are first formed and before work on the assessment begins. Research shows that groups function better when members get to know each other before beginning the task. There are many activities on the internet or in books such as “Games Trainers Play” in our library.
- Form groups with a range of skills, abilities, language levels and ethnic backgrounds.
- Construct tasks that require a variety of skills and abilities, and where a range of ethnic backgrounds would be an advantage to the group.
- Train all new students in communication skills and group skills.
- Encourage students to develop their own group culture that supersedes their individual cultures.
- Discuss cultural differences with groups/ discuss misunderstandings which might arise as a result of cultural and linguistic differences.
- Expect multi cultural groups to take longer to perform than mono cultural groups.
- Assign roles in the group and make sure that they are rotated
- Encourage groups to develop group contracts as research shows that effective group functioning is crucial in heterogeneous groups.
- Ensure that assessment expectations are clearly outlined in writing.
- Explain your reasons for doing group work for the assessment.
- Build in regular group processing by the group and with the tutor. Research shows that ethnically diverse groups require even more group processing than mono cultural groups (and they need lots!).
- Emphasize to groups that the more interdependent the world becomes, the more important it is to be able to work effectively with diverse group mates. Point out (frequently!) that employers these days are looking for cross cultural communication competence

## **MOTIVATING YOUR STUDENTS TO BE ACTIVE LEARNERS: C.L. TECHNIQUES THAT DON'T TAKE TOO LONG!**

1. **Turn To Your Neighbor And... (3-5 minutes)** "Turn to your neighbor and see if he or she agrees with the statement I have written on the board. If there is a disagreement, how can you use last night's reading assignment to prove the point?"
  
2. **Two minute paper (2minutes!)** Ask students to work in pairs to jot down the answers to questions such as "What is the main point of today's class material so far?" "What is the muddiest point in what we have done so far?" Collect these in before the break.
  
3. **3-2-1 (3-5 minutes)** At the end of an explanation or demonstration, pass out index cards and have each person write down three important terms or ideas to remember, two ideas or facts they would like to know more about, and one concept, process, or skill they think they have mastered. This activity can help make a transition to the next task and lets you check in quickly on their progress.
  
4. **Ticket Out the Door (3-5 minutes)** This is especially good when an activity concludes just before lunch. Pass out a printed "ticket" about the size of a half sheet of notebook paper. Ask students to work in pairs to jot down two additional questions about the topic that was just explained or investigated in some way. This reinforces the assumption that you are never finished learning and should continue to ask questions.
  
5. **A Note to a Friend (5-10 minutes)** At the end of an explanation or demonstration, pass out a sheet of paper and ask each student to write a note to a friend explaining the process, rule, or concept they have just learned about. Exchange notes.
  
6. **Sort The Items (5-10 minutes)** The teacher asks students to work in pairs to place ideas, concepts, or statements in categories defined by the teacher. For example, the teacher might ask "Which statements were based on fact?" and "Which statements were based on inference?"

- 7. Jumbled Summary (5-10 minutes)** The teacher writes key words or phrases from an explanation or introduction in a random order on a slide or on a page to be photocopied. Following the presentation, the teacher asks pairs to "unscramble" the terms and reorder them in correct sequence.
- 8. Alphabet Summary (5-10 minutes)** At the end of an explanation or demonstration, give each student pair a different letter of the alphabet and ask them to think of one word or idea beginning with that letter that is connected to the topic just concluded .
- 9. Write, Pair, Share (5-10 minutes)** "Think about what you have just heard. Write down three statements about it on an index card." (Pause) "Now exchange your responses with a partner." (Pause) "What were the most frequently mentioned ideas or terms?" (whole group debrief).
- 10. Draw a Picture or diagram (5-10 minutes)** At the end of a segment of teacher directed instruction, ask participants to work in pairs to create a graphic summary / diagram/mindmap of how they would organize information, reach a conclusion, or interact differently based on the demonstration you just provided.
- 11. Three Person Jigsaw (15 minutes)** Each person reads a separate page or a portion of a longer selection. Then he or she teaches the main points to the two other members of their study group. Each then quizzes the other members to make sure everyone knows all parts thoroughly.
- 12. K-W-L Trio (15 minutes)** Before a video/dvd, lecture, or reading, have students work in threes to write down what they already know about the subject, and what they want to know about the subject. Then show the vide/dvd, deliver the lecture, or engage the group in the reading. Then have each trio circle the "known" information that was covered, put asterisks next to the questions that were answered, and add other things they learned as a result of the video/dvd, lecture, or reading.
- 13. Drill Partners (15 minutes)** Have students drill each other on facts they need to recall until they are certain both partners know and can remember them all. This works effectively with vocabulary terms, mathematical symbols and shapes, and grammar.

- 14. Writing Response Groups (20 minutes)** Students read and respond to each other's written work by marking passages that they think are effective with a star, and underlining what they don't understand or think is weak. Errors in grammar, usage, punctuation, spelling, or format are circled. Then they discuss their observations with the writer.
- 15. Inside-Outside Circles (10-20 minutes)** Organize students into groups of six, with three persons standing with their backs touching and facing out, and three persons forming a circle around them, facing inward toward the person in the center. The teacher directs each pair to exchange information related to previously taught material. Then the teacher asks the persons in the center to rotate, facing a new partner, and chooses a different topic for exchange.
- 16. Four Corners (15-20 minutes)** The teacher states a controversial situation or dilemma, then asks students to go to one of four corners of the room, marked Strongly Agree, Agree, Strongly Disagree, Disagree. There the students exchange their opinions or reasoning, and summarize their reasoning for the rest of the class.
- 17. Numbered Heads Together (10 minutes)** Students are grouped by teams. Each team member numbers off, so that each member has a number. After working jointly together, the teacher asks a question or presents a problem. The students must jointly agree on the correct answer. The teacher selects a team, and calls a number at random. The student with that number must answer the question, and briefly be able to explain why that answer is correct. If the group has not been able to come up with an answer that all agree to, the team must "pass" until it is called upon again. Numbered Heads can be especially useful when reviewing large "chunks" of material or in helping students prepare for a test.
- 18. Roundtable (10-20 minutes)** The teacher asks a question with many possible answers ("Name all of the items in your home which were not invented 25 years ago.") Using one sheet of paper, students make a list, each person adding one item and then passing the paper to the person on their left. The product is the result of many minds (and hands) at work--hence roundtable.
- 19. Send-a-Problem (10-20 minutes)** Each student on a team makes up a question or review problem and writes it down on a flashcard. The author of each problem/question asks the question of his/her team members. If they do not have consensus on the answer, the group works on the problem or rewords it until everyone can explain/agree. Next, the team passes their stack of review questions to another team for review.

**20. Group Test Taking for Practice (20 minutes)** The day before a test, give student groups copies of earlier versions of your test or questions similar to those that will actually be on the test. Tell them that "Tomorrow you will get a test like this as individuals, and there will be no team to help you. You can help each other all you want today. Make sure your teammates can get a perfect score. Help everyone understand."

# Frequently asked questions about Cooperative Learning

**Some suggestions; if one doesn't work try another!**

**How can I use cooperative learning in a course that has a content heavy prescription?**

- Look on the internet for articles on quick active ideas to combine with lecturing; Cooper & Robinson are good, as are Felder & Brent (see list of useful reading). Richard Felder teaches chemical engineering, a traditionally content heavy subject.
- Remember that research shows that you may cover less content with CL but your students will have learned and retained more through learning actively.
- Use carefully structured pre reading requirements. Mark them quickly on a pass/fail basis to cut down marking. You can then be confident that students have mastered the content and can then apply it in group tasks.
- Make sure that your course outline emphasizes your expectation that students pre read material and keep to it. If you repeat all the required pre reading in your lecture students will very quickly get the idea that they don't have to pre read your material!
- Use the jigsaw method<sup>1</sup> to cut down teaching all content from the front of the room. Remember that lecturing has its place; CL is not an all or nothing concept.
- Put the content parts of the course on handouts for students to read at home and have short quizzes at the beginning of the class. Mark quickly on a pass/ fail basis. Use the content as the basis of group tasks.
- Always keep in mind that students still pass when they miss some of your classes; your explanations are not always essential!

**How can I convince students that teaching doesn't have to come from the teacher?**

- Explain in detail what you are doing and **why**. Add a full explanation of your teaching and assessment methods to your course outline. Discuss this in the first class.
- Carry out the goal activity<sup>2</sup> so that students can see why you are using cooperative learning methods.
- Structure assignments so that students can see that they have to be done by a group.
- Remember that some students like lectures because they are easier! Remember that student opinions on good teaching are sometimes suspect!
- Remember that international students have often only had experience of front of room teaching and that they will probably take time to adjust to cooperative learning. They will need to see that group work is a serious academic technique before they are convinced.

### **How can I make sure that all students participate?**

- Ensure that your programme incorporates training in group communication skills so that students know what is expected of them.
- Arrange for a generic course in CL for all new students if subject tutors can't fit it in; then students just need to be reminded in your class.
- Discuss different cultural attitudes to participation with the whole class.
- Ensure that all formal groups develop group objectives and ground rules that include equal participation.
- If you are setting an out of class group assignment make sure that the first meeting is held in class so that you can monitor what is going on in the groups.
- Tell students that you will randomly select the reporters at the end of the activity ("All number ones..."). This is the Numbered Heads Together technique.<sup>3</sup>
- Use open ended tasks and stress that you want a variety of answers.
- Make sure that students can see that the CL task is clearly aligned with their personal goals e.g. passing the course, doing well in the exams.
- Use CL activities that use a range of abilities.
- Make sure that your peer feedback form includes participation and that the students use the form to practise giving peer feedback early in the process.
- Encourage groups to use talking chips (or similar)<sup>4</sup> until they are participating evenly
- Use think/pair/square<sup>5</sup> type activities to accustom students to expressing their own views.
- Give less talkative members a role that means that they have to speak (eg facilitator) early in the exercise.
- Ensure that international students are convinced of the pedagogical value of participation as their experience will generally have been of teaching based on exams and textbooks. They need help and time to adjust.
- Ensure that international students have all the prior information they need ie cultural, political, geographical knowledge that you and other students take for granted.
- Avoid giving too much guidance; students should be asking each other for guidance.
- Build in regular group processing sessions to identify any participation problems. Give groups forms such as Felder and Brent's form (in the pre reading for this course) so that they have a structure to follow and the sessions don't deteriorate into personal attacks.

### **How can I assess group work so that it is reliable and valid? (More on assessment in session two.)**

- Decide whether you are assessing product or process or both and make sure that the assessment criteria match the assessment objectives.
- Decide whether you are giving an overall group grade, individual grades, or a combination of both, and have clear marking criteria for group and individual marks.

- Incorporate a final individual test into the group assessment process.

### **How can I use peer assessment so that students accept that it is a fair method?**

- Assess only observable behaviour, never attitude. Attitude is too subjective.
- Keep records of observable behaviour in group minutes; and tell students that they must provide concrete evidence for their marks.
- Make sure that students have practice in assessing their peers before they carry out the final assessment.
- Consider allowing students to contribute to the formation of the marking criteria.
- Check the internet for copies of peer assessment forms that have been used by other tertiary tutors.

### **Can self - assessment work? Don't students always give themselves high marks?**

- Base self- assessments on measurable criteria for which students must provide evidence.
- Remember that research (and many tutors' experience) does not support the fear that students cannot self assess objectively.

### **How can I make sure groups keep to time limits during informal classroom activities?**

- Use a bell when you want students to move on.

### **How can I quickly get students' attention when they are working in groups?**

- Use an attention – getting signal that all students recognize e.g. raising your hand, using a whistle or a buzzer.

### **How do I deal with groups that become too noisy?**

- Encourage groups to appoint a noise controller.

### **What do I do when groups finish at different times?**

- Ask two groups that have finished early to compare their results with each other.
- Have an extra “sponge” activity ready to give them.

### **How do I prevent group report back time from becoming boring?**

- Ask different groups to take different aspects of the same theme.

- Provide space (on the whiteboard, butcher's paper etc) for one member of each group to write their group's answer. Groups can check each other's answers or they can be summed up by the tutor who will identify any differences.
- Give a time limit for reporting back and enforce it.
- Remember that groups don't always have to report back.

### **How can I prevent groups from reaching a quick superficial consensus?**

- Emphasise that you want diverse answers and minority views.
- Question a group that has reached a quick decision; ask them to describe how they considered other options.

### **How can I use cooperative learning with a large class?**

- Look on the internet for articles and book chapters with ideas. Richard Felder is good.
- Use think/pair or write /pair activities<sup>5</sup> where students don't need to move from their seats.
- Make sure that your group instructions are very clear; give them orally and in writing.
- Make sure that each group has a facilitator with responsibility for monitoring the group.

### **What can I do if students don't get along with their team members?**

- Explain to the students that in the workforce we sometimes don't like our coworkers but we still have to work with them!
- Teach students the collaborative skill of polite disagreement and other assertiveness techniques.
- Provide team building activities (there are plenty on the internet) that help students learn about each other; research suggests that when people get to know each other before working on the group task personal prejudices are reduced.

### **What can I do if groups complain about students missing meetings or not doing jobs they have been given by the group?**

- Keep groups small; anything over four makes it easier for some members to avoid contributing.
- Ensure that groups keep minutes and allocate marks for minutes and attendance.
- Build in team building activities before groups begin their tasks; members who have got to know each other are less inclined to let others down.
- Discuss Oakley's Hitchhiking and Couch Potatoes article with the class before group formation. Ask the class for their ideas.

- Discuss “the ideal team member” with groups; use a rubric that they can discuss or let them come up with their own ideas.
- Design some parts of the task to be assessed early in the life of the group.
- Ensure that formal groups develop written procedures for dealing with these problems. Contracts and agreed ground rules are helpful too.
- Use peer evaluation with practice sessions that will make it clear to free riders that they will lose marks in the final evaluation.
- Train students in open communication; research suggests that good intra-group communication lessens free riding activities.
- Build in regular group processing sessions to monitor progress and participation.
- Hold regular short “clinics” with the whole class to discuss any problems.
- Encourage groups to warn non contributing members early on that they will lose marks.

### **How can I stop one student from dominating the group?**

- Use talking chips or similar<sup>4</sup>.
- Make sure all members of a group have a role<sup>6</sup>. Give the more talkative members roles that mean that they have to listen (e.g. recorder) early in the activity.
- Teach the collaborative skill of turn taking and encouraging everyone to participate. Teach inclusive meeting techniques such as rounds.
- Make sure that the seating arrangement doesn’t put anyone on the outer. Student often have to be shown the importance of seating.
- Structure the task so that all members have to listen to each other to complete the task.

### **What can I do if students give each other the wrong information?**

- If most students have misunderstood a concept you will need to stop the group activity and do some whole class teaching.
- Check drafts of students carrying out a jigsaw activity and clarify anything that might be incorrect.

### **How often should I use cooperative learning methods?**

- This depends on the tutor’s beliefs about teaching and experience with cooperative learning, the subject, and the time available. Do what suits you and the class! Start with simple methods and work up to more complex methods when you and the class are ready.

### **How can I prevent students giving a major assignment to the most capable student to complete?**

- Structure the assignment so that it can only be done by a group (e.g. a presentation.) If you give a group an assignment that can be done by an individual it will inevitably be done by the most capable student; wouldn't you do the same if marks were involved?
- Use group work only with complex assignments that obviously have to have several people working on them.
- Structure the assignment so that a range of different abilities are being assessed; it is unlikely that one student is good at everything.
- Structure the assignment so that the initial part is completed and marked individually.
- Ask groups to hand in a plan that details individual responsibilities.
- Incorporate an oral report into the assignment and make it clear that the reporter will be chosen at random.
- Incorporate a final test into the assignment; stress to students that active participation in the group will help them obtain higher scores.
- Incorporate a round robin discussion of the outputs of the assignment; any member of the group may be called on to answer questions on any aspect of the assignment.
- Build in regular group processing sessions to monitor individual contribution.

### **How can I prevent students from dividing up a group assignment so that they hand in individual work stapled together to be marked?**

- Structure the assignment so that it has to be completed as a group. As with the previous question, wouldn't you want to save time by dividing the task up if it were possible?
- Remember that any experience that international students have of group work will probably involve dividing the task. They need to be assured that the group work you require is different. Be careful to avoid being judgmental; you are simply asking for a different cooperative method.
- Schedule one or two meetings that you, as tutor, will attend so that you can make sure that they are working effectively as a team rather than as individuals.

### **Are high achieving students penalized by C.L.?**

- Research is mixed on this issue but does not generally support this concern. It seems to depend on how well the group is functioning as a group.
- Remember that having to explain things to other students is a useful learning tool.

## **<sup>1</sup>Jigsaw:**

**Step one:** Students' original groups of four are called home teams. Each home team member receives different information. This is their piece of the jigsaw puzzle.

**Step two:** Students leave their home teams and form expert teams composed of people from other groups who have the same piece of information. The role of the expert teams is to understand their piece and prepare to teach it to their home members.

**Step three:** Students return to their home teams and take turns teaching their piece. Group mates ask questions and discuss.

## **<sup>2</sup>Goal ranking and matching activity:**

**Step one:** Students formulate their own individual goals for the course and discuss them with a partner.

**Step two:** The tutor explains his/her goals for the course (in a handout or on a slide)

**Step three:** Students determine the degree of match between their goals and the tutor's goals.

**Step four:** Tutor leads a whole class discussion emphasizing the importance of CL in achieving these goals.

## **<sup>3</sup>Numbered Heads Together:**

**Step one:** Students in groups each have a number – 1, 2, 3, etc

**Step two:** The tutor asks a question or gives a task.

**Step three:** Groups put their heads together to respond to the problem or do the task.

**Step four:** The tutor calls a number, and the student in each group with that number gives and answer and explains the group's response.

## **<sup>4</sup>Talking Chips:**

**Step one:** Each student begins with three chips or tokens.

**Step two:** Each time individual students speak they surrender one chip by putting it in the middle of the group.

**Step three:** When students have used all three of their chips they cannot speak until all their groupmates have surrendered all their chips.

**Step four:** When no one has any chips left, everyone gets three chips back again and the process begins again.

## **<sup>5</sup>Think – pair – share: (or Write – pair – share)**

**Step one:** Students are in pairs. The tutor asks a question. Each student thinks alone for a few minutes. (Students may be asked to write their answers.)

**Step two:** Members of each pair discuss their answers with each other and try to construct an answer that is better than the individual answers.

**Step three:** The tutor calls students at random to report the shared answers.

### **<sup>6</sup>Roles:**

**Facilitator:** keeps the group on task and makes sure that everyone knows what the instructions are.

**Timekeeper:** keeps track of time limits.

**Checker:** checks to see that all students have understood.

**Recorder:** keeps notes on what the group has discussed.

**Reporter:** reports the group's work to other groups or the whole class.

**Materials manager:** makes sure that the group has the materials they need and that these are taken care of properly.

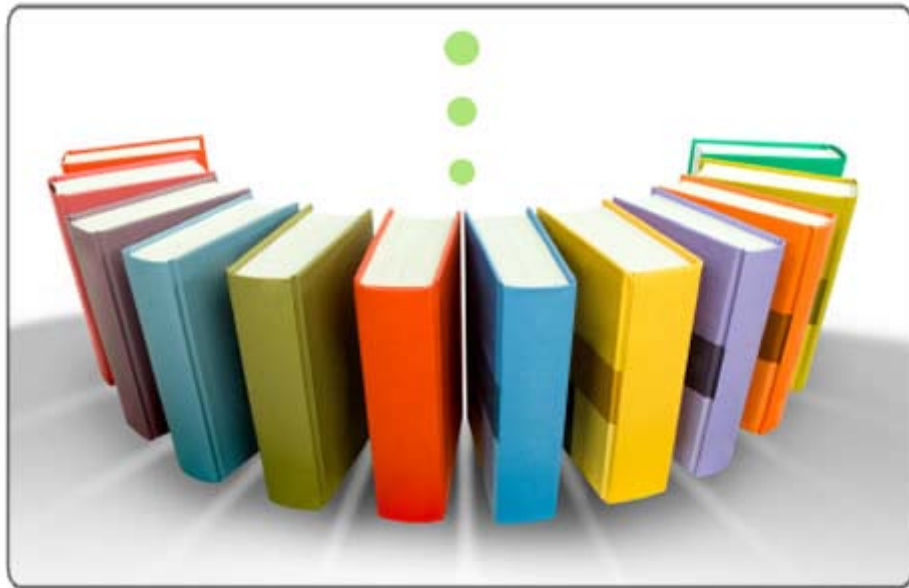
**Sound hound:** controls noise levels.

**Conflict creator:** plays devil's advocate and encourages divergent views and answers.

**Documents manager:** keeps track of any documentation that has to be handed in eg minutes and agendas.

**Relationship manager:** notes how the group is working together, encourages participation and teamwork.

# Useful reading



## Useful reading:

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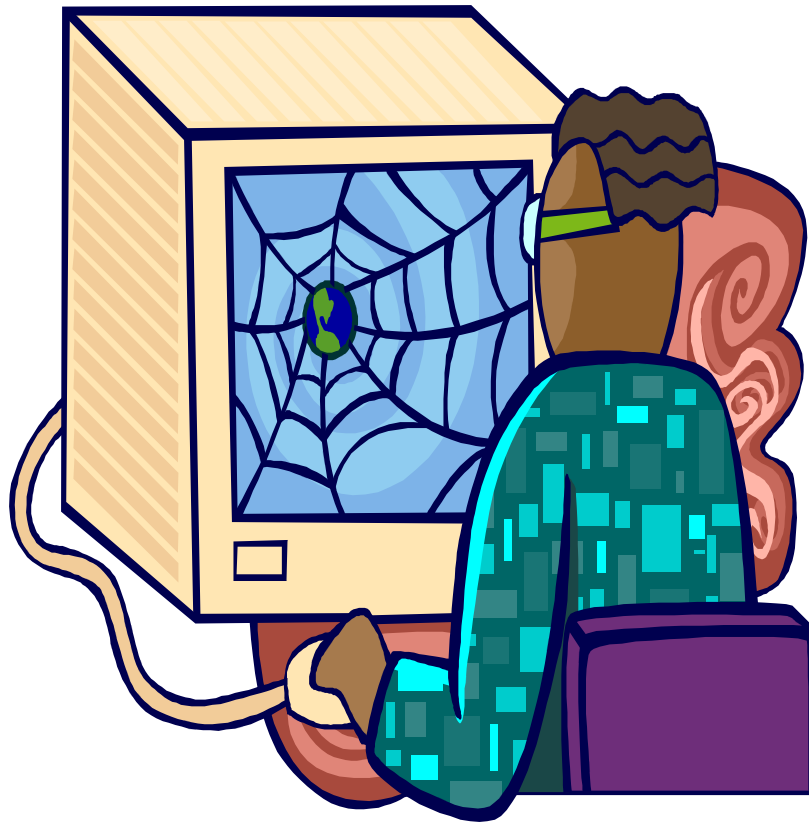
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# Useful websites



## Useful websites:

### 1. International Association for the Study of Cooperation in Education (IASCE).

Links to a site with lots of papers on CL and computers.

[www.iasce.net](http://www.iasce.net)

### 2. Success for All

The Success for All Foundation (SFAF) is a not-for-profit organisation dedicated to the development, evaluation, and dissemination of proven reform models for preschool, elementary, and middle schools, especially those serving many children placed at risk. Cooperative learning is a key component of their model. The foundation was founded by Robert Slavin and his colleagues.

[www.successforall.net](http://www.successforall.net)

### 3. Cooperative Learning Centre at the University of Minnesota (USA)

The centre offers research updates, a Q & A, and many publications and other materials on CL. Co-Directors: Roger T. Johnson and David W. Johnson.

[www.co-operation.org](http://www.co-operation.org)

### 4. Kagan Cooperative Learning

This site offers a newsletter, a Q & A section, workshop information, and the chance to buy lots of materials of CL and related topics, e.g., Multiple Intelligences, by Spencer Kagan and his colleagues.

[www.kaganonline.com](http://www.kaganonline.com)

### 5. Program for Complex Instruction, Stanford University (USA)

This site features the work of Elizabeth Cohen, Rachel Lotan, and their colleagues which has focused on the sociology of cooperative learning groups, in particular the treatment of status differences among group members.

[www.stanford.edu/group/pci/](http://www.stanford.edu/group/pci/)

### 6. Mid-Atlantic Association for Cooperation in Education (MAACIE)

This organisation promotes CL in the Mid-Atlantic region of the United States. The site includes articles from MAACIE's newsletter.

[www.maacie.org](http://www.maacie.org)

### 7. The Jigsaw Classroom

This site contains information on Jigsaw, one of the oldest and best-known cooperative learning techniques. Among the features, is the history of Jigsaw, descriptions on how to implement the technique, troubleshooting ideas, a list of books and articles about Jigsaw, and information of recent related work by Eliot Aronson, one of the originators of the technique.

[www.jigsaw.org](http://www.jigsaw.org)

## **8. Richard Felder's Homepage**

A teacher of engineering at North Carolina State University (USA). Lots of good stuff here related to CL.

[www.ncsu.edu/unity/lockers/users/f/felder/public](http://www.ncsu.edu/unity/lockers/users/f/felder/public)

## **9. Ted Panitz's Homepage**

Ted teaches mathematics at Cape Cod Community College (USA). His page includes two E-books, one on CL and one on Writing Across the Curriculum. Also included are some of the wide-ranging internet discussions that Ted has put together across several lists.

[www.home.capecod.net/~tpanitz](http://www.home.capecod.net/~tpanitz)

## **10. Bibliography on CL in Science and Mathematics**

Compiled by Jim Cooper and Pam Robinson

[www.cs.wpi.edu/~peer/cs/bibentries](http://www.cs.wpi.edu/~peer/cs/bibentries)

## **11. George Jacob's Homepage**

Go to the CL section for a number of articles on CL.

[www.georgejacobs.net](http://www.georgejacobs.net)

## **12. ERIC**

If you go to [www.eric.ed.gov](http://www.eric.ed.gov) and [www.eduref.org](http://www.eduref.org) and type "Cooperative Learning" you will get 100's of hits. That should keep you busy for a while. Proquest and other online search tools are similarly well-endowed with CL documents.



**HAPPY SURFING**

You may find these articles from Dr Richard Felder, Department of Chemical Engineering, North Carolina State University particularly useful.

## Random Thoughts . . .

# SERMONS FOR GRUMPY CAMPERS

RICHARD M. FELDER  
North Carolina State University

In workshops, I push teaching methods such as active and cooperative learning that make students more responsible for their own learning than they are when instructors simply lecture.<sup>1,2</sup> I believe in truth in advertising, though, and make it clear that the students will not all be thrilled with the added responsibility and some may be overtly hostile to it.<sup>13</sup> If you use those methods, you can expect some of your students to complain that you're violating their civil rights by not just telling them everything they need to know for the test and not a word more or less.

When you use a proven teaching method that makes students uncomfortable, it's important to let them know why you're doing it. If you can convince them that it's not for your own selfish or lazy purposes but to try to improve their learning and grades, they tend to ramp down their resistance long enough to see the benefits for themselves. I've developed several mini-sermons to help with this process. If any look useful, feel free to appropriate them.

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**Student:** "Those group activities in class are a waste of time. I'm paying tuition for you to teach me, not to trade ideas with students who don't know any more than I do!"

**Professor:** "I agree that my job is to teach you, but to me teaching means making learning happen and not just putting out information. I've got lots of research that says people learn through practice and feedback, not by someone telling

them what they're supposed to know. What you're doing in those short class activities are the same things you'll have to do in the homework and exams, except now when you get to the homework you will have already practiced them and gotten feedback. You'll find that the homework will go a lot more smoothly and you'll probably do better on the exams. (Let me know if you'd like to see that research.)"

\*\*\*

**S:** "I don't like working on homework in groups— why can't I work by myself?"

**P:** "I get that you're unhappy and I'm sorry about it, but I've got to be honest with you: My job here is not to make you happy—it's to prepare you to be a chemical engineer. Here's what's not going to happen in your first day on the job. They're

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Chem. Engr. Education, 41 (3), 183-184 (2007).

not going to say 'Welcome to the company, Mr. Jones. Tell me how you like to work — by yourself or with other people?' No. The first thing they'll do is put you on a team, and your performance evaluation is likely to depend more on how well you can work with that team than on how well you solve differential equations and design piping systems. Since that's a big part of what you'll be doing there, my job is to teach you how to do it here, and that's what I'll be doing."

**S:** "Okay, but I don't want to be in a group with those morons you assigned me to. Why can't I work with my friends?"

**P:** "Sorry — also not an option. Another thing that won't happen on that first day on the job is someone saying 'Here's a list of everyone in the plant. Tell me who you'd like to work with.' What *will* happen is they'll tell you who you're working with and you won't have a vote on it. Look, I can show you a survey in which engineering alumni who had been through extensive group work in college were asked what in their education best prepared them for their careers.<sup>[4]</sup> The most common response was 'the groups.' One of them said 'When I came to work here, the first thing they did was put me on a team, and you know those annoying teammates back in college who never pulled their weight — well, they're here too. The difference between me and people who came here from other colleges is that I have some idea what to do about those guys.' In this class you're going learn what to do about those guys."

\*\*\*

**S:** "I hate these writing assignments and oral reports you keep making us do. One reason I went into engineering was to get away from that stuff."

**P:** "I'm afraid there's no getting away from it — quite the contrary. Let me give you an example. A few years ago an engineer who was on campus interviewing students for jobs and summer internships came in to talk to an engineering class that was getting frequent communication assignments and complaining bitterly about it. He started by writing on the board a list of everything he did on his job, from designing and pricing process equipment to writing reports and memos and talking to people. Then he had the students get in groups and speculate on what percentage of his time he spent on each of those activities. They all thought 90% of his time went to the technical stuff but it was actually more like 10%. He said that in fact about 75% of his time was spent on writing and speaking — to coworkers, his boss, people reporting to him, people in other divisions, and customers and potential customers — and that his advancement on the job depended heavily on how effectively he communicated with those people. He also said — and this was what really got the students' attention — that the main thing he was looking for when he

interviewed students for jobs was the ability to communicate effectively. Most industrial recruiters we bring in here will tell you the same thing. Since communication skill is something you'll need to get a job and succeed in it, you'd better acquire it while you're here, and you will in this class."

\*\*\*

And that's that. My suggestion is to put your own spin on those sermonettes and trot them out when the right occasion presents itself. While I don't guarantee that they will immediately convert all students into believers — in fact, I guarantee they won't — my experience is that at least they'll keep student resistance down enough to enable the teaching methods we've been talking about to achieve their objectives.

Let me give you one more encouraging word about student resistance to learner-centered teaching methods. My colleague Lisa Bullard uses cooperative learning in both an introductory sophomore engineering course and the capstone senior design course. She once told me that she has always had problems with group work in the sophomore class but never with the seniors until one semester, when she got the Design Class from Hell. The students complained constantly about having to work in groups, many teams were dysfunctional, and things generally went the way they always had in the sophomore class only worse.

Lisa wracked her brains trying to figure out what was different about the design class that semester and couldn't think of a thing — and then she got it. Up until that year the seniors had previously been in her sophomore class and so were accustomed to group work. She had not taught this group of seniors before, however, and so she was experiencing the headaches that normally come when students first encounter active and cooperative learning. So if you find yourself experiencing those headaches, remember two things. First, you're equipping students with skills that will serve them well throughout their careers, whatever those careers may be. Second, you're making life much easier for yourself or colleagues who teach those students in subsequent courses using the same methods. It's worth a few headaches.

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## HOW ABOUT A QUICK ONE?

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Of all instructional methods, lecturing is the most common, the easiest, and the least effective. Unless the instructor is a real spellbinder, most students cannot stay focused throughout a lecture: after about 10 minutes their attention begins to drift, first for brief moments and then for longer intervals; they find it increasingly hard to catch up on what they missed while their minds were wandering; and eventually they switch the lecture off altogether like a bad TV show. McKeachie [1] cites a study indicating that immediately after a lecture students recalled 70% of the information presented in the first ten minutes and only 20% of that from the last ten minutes.

There are better ways. Actively involving students in learning instead of simply lecturing to them leads to improved attendance, deeper questioning, higher grades, and greater lasting interest in the subject [1,2]. A problem with active instructional methods, however, is that they sound time-consuming. Whenever I describe in workshops and seminars the proven effectiveness of in-class problem-solving, problem-formulation, trouble-shooting or brainstorming exercises, I can always count on someone in the third row asking---usually sincerely, sometimes belligerently---"If I do all that, how am I supposed to get through the syllabus?"

I have a variety of answers I trot out on such occasions, depending on my mood and the tone of my questioner, but they mostly amount to "So what if you don't?" Syllabi are usually made up from the standpoint of "What do I want to cover" rather than the much more pertinent "What do I want the students to be able to do"; when the latter approach is adopted, it often turns out that large chunks of the syllabus serve little educational purpose and can be excised with no great loss to anyone. But never mind: let's accept---for the remainder of this column, at least---the principle that it is critically important to get through the syllabus. Can I (asks my friend in the third row) use any of those allegedly powerful teaching techniques and still cover it all?

Yes (I reply), you can. Here are two techniques for doing it.

### **In-class group problem-solving**

As you lecture on a body of material or go through a problem solution, instead of just posing questions to the class as a whole and enduring the subsequent embarrassing and time-wasting silences, occasionally assign a task and give the class one or two minutes to work on it in groups of three to five at their seats. For example:

- *Sketch and label a flow chart (schematic, force diagram, differential control volume) for this system.*
- *Sketch a plot of what the problem solution should look like.*

- *Give several reasons why you might need or want to know the solution.*
- *What's the next step?*
- *What's wrong with what I just wrote?*
- *How could I check this solution?*
- *What question do you have about what we just did?*
- *Suppose I run some measurements in the laboratory or plant and the results don't agree with the formula I just derived. Think of as many reasons as you can for the discrepancy.*
- *What variations of this problem might I put on the next test? (This and the last one are particularly instructive.)*

You don't have to spend a great deal of time on such exercises; one or two lasting no more than five minutes in a 50-minute session can provide enough stimulation to keep the class with you for the entire period. The syllabus is safe!

Warning, however. The first time you assign group work, the introverts in the class will hang back and try to avoid participating. Don't be surprised or discouraged---it's a natural response. Just get their attention---walk over to them if necessary---and remind them good-naturedly that they're supposed to be working together. When they find out that you can see them<sup>(1)</sup> they'll do it, and by the time you've done three or four such exercises most of the class will need no extra prodding. Granted, there may be a few who continue to hold out, but look at it this way: in the usual lecture approach, 5% of the students (if that many) are actively involved and 95% are not. If you can do something that reverses those percentages or comes close to it, you've got a winner.

### **In-class reflection and question generation**

The *one-minute paper* is an in-class assignment in which students nominate the most important and/or the most confusing points in the lecture just concluded [3,4]. Variations of this device can be used to powerful effect. About two minutes from the end of a class, ask the students---working individually or in small groups---to write down and turn in anonymous responses to one or two of the following questions:

- *What are the two most important points brought out in class today (this week, in the chapter we just finished covering)?* Examination of the responses will let you know immediately whether the students are getting the essential points. Also, when the students know beforehand that this question is coming they will tend to watch for the main points as the class unfolds, with obvious pedagogical benefits.
- *What were the two muddiest points in today's class (this week's classes, this section of the course)?* Rank the responses in order of their frequency of occurrence and in the next class go over the ones that came up most often.
- The responses to this question will surprise you. What you would have guessed to be the most difficult concepts may not show up on many papers, if they show up at all;

what *will* appear are concepts you take for granted, which you skimmed over in your lecture but which are unfamiliar and baffling to the students.

- *What would make this material clearer to you?* You also never know what you'll get in response to this one---perhaps requests for worked-out examples of solution procedures or concrete applications of abstract material, or pleas for you to write more clearly on the board, speak more slowly, or stop some annoying mannerism that you weren't aware you were doing. Responses to this question can provide valuable clues about what you could do to make your teaching more effective.
- *Make up a question about an everyday phenomenon that could be answered using material presented in class today (this week).* (Optional:) *One or two of your questions will show up on the next test.*

I used the last exercise---including the zinger about the next test---at the end of a course segment on convective heat transfer and got back a wonderful series of questions about such things as why you feel much colder in water at 20 degrees celcius than in air at the same temperature; why you feel a draft when you stand in front of a closed window on a cold day; why a fan cools you on a hot day and why a higher fan speed cools you even more; why a car windshield fogs up during the winter and how a defogger works; and why you don't get burned when you (a) move your hand right next to (but not quite touching) a pot of boiling water; (b) touch a very hot object very quickly; (c) walk across hot coals. I typed up the questions (sneaking a few additional ones onto the list) and posted them outside my office---and in the days preceding the test I had a great time watching the students thinking through all the questions and speculating on which one I would put on the test. (I used the one about the fan.)

There are other short, easy, and effective instructional methods, but these should do for starters. Check them out and let me know how they work for you. If I collect some good testimonials (positive or negative) I'll report them in a future column.

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## Footnotes

1. Students in a class of more than 15 always imagine they're invisible.

# NAVIGATING THE BUMPY ROAD TO STUDENT-CENTERED INSTRUCTION

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## INTRODUCTION

In the traditional approach to higher education, the burden of communicating course material resides primarily with the instructor. In *student-centered instruction* (SCI), some of this burden is shifted to the students. SCI is a broad approach that includes such techniques as substituting active learning experiences for lectures, holding students responsible for material that has not been explicitly discussed in class, assigning open-ended problems and problems requiring critical or creative thinking that cannot be solved by following text examples, involving students in simulations and role-plays, assigning a variety of unconventional writing exercises, and using self-paced and/or cooperative (team-based) learning. In traditional instruction, the teacher's primary functions are lecturing, designing assignments and tests, and grading; in SCI, the teacher still has these functions but also provides students with opportunities to learn independently and from one another and coaches them in the skills they need to do so effectively. In recent decades, the education literature has described a wide variety of student-centered instructional methods and offered countless demonstrations that properly implemented SCI leads to increased motivation to learn, greater retention of knowledge, deeper understanding, and more positive attitudes toward the subject being taught (Bonwell and Eisen 1991; Johnson Johnson and Smith 1991a,b; McKeachie 1986; Meyers and Jones 1993).

We use student-centered instruction extensively in our courses and discuss it in teaching workshops we present to faculty members and graduate teaching assistants. The workshop participants generally fall into two categories. On the one hand are the skeptics, who come up with all sorts of creative reasons why student-centered methods could not possibly work. On the other hand are the converts, who are sold on SCI and can't wait to try it. We know the fears teachers have about the instructional methods we advocate, having had most of them ourselves, and we can usually satisfy most of the skeptics that some of the problems they

anticipate will not occur and the others are solvable. We worry more about the enthusiasts who leave the workshop ready to plunge right in, imagining that the spectacular results promised by the literature will show up immediately.

The enthusiasts may be in for a rude shock. It's not that SCI doesn't work when done correctly-it does, as both the literature and our personal experience in two strikingly different disciplines richly attest. The problem is that while the promised benefits are real, they are neither immediate nor automatic. The students, whose teachers have been telling them everything they needed to know from the first grade on, don't necessarily appreciate having this support suddenly withdrawn. Some students view the approach as a threat or as some kind of game, and a few may become sullen or hostile when they find they have no choice about playing. When confronted with a need to take more responsibility for their own learning, they may grouse that they are paying tuition-or their parents are paying taxes-to be taught, not to teach themselves. If cooperative learning is a feature of the instruction, they may gripe loudly and bitterly about other team members not pulling their weight or about having to waste time explaining everything to slower teammates. Good lecturers may feel awkward when they start using student-centered methods and their course-end ratings may initially drop. It's tempting for instructors to give up in the face of all that, and many unfortunately do.

Giving up is a mistake. SCI may impose steep learning curves on both instructors and students, and the initial instructor awkwardness and student hostility are both common and natural. The key for the instructors is to understand how the process works, take some precautionary steps to smooth out the bumps, and wait out the inevitable setbacks until the payoffs start emerging.

## **TRADITIONAL STUDENTS IN A NONTRADITIONAL CLASS: A PAINFUL ODYSSEY**

Woods (1994) observes that students forced to take major responsibility for their own learning go through some or all of the steps psychologists associate with trauma and grief:

1. **Shock:** "I don't believe it-we have to do homework in groups and she isn't going to lecture on the chapter before the problems are due?"
2. **Denial:** "She can't be serious about this-if I ignore it, it will go away."
3. **Strong emotion:** "I can't do it-I'd better drop the course and take it next semester" or "She can't do this to me-I'm going to complain to the department head!"
4. **Resistance and withdrawal:** "I'm not going to play her dumb games-I don't care if she fails me."
5. **Surrender and acceptance:** "OK, I think it's stupid but I'm stuck with it and I might as well give it a shot."

**6. Struggle and exploration:** "Everybody else seems to be getting this-maybe I need to try harder or do things differently to get it to work for me."

**7. Return of confidence:** "Hey, I may be able to pull this off after all-I think it's starting to work."

**8. Integration and success.** "YES! This stuff is all right-I don't understand why I had so much trouble with it before."

Just as some people have an easier time than others in getting through the grieving process, some students may immediately take to whichever SCI method you're using and short-circuit many of the eight steps, while others may have difficulty getting past the negativity of Steps 3 and 4. The point is to remember that the resistance you encounter from some students is a natural part of their journey from dependence to intellectual autonomy (see Kloss 1994). If you provide sufficient structure and guidance along the way, by the end of the course most of them will reach satisfactory levels of both performance and acceptance of responsibility for their own learning.

In the remainder of this paper, we list common faculty concerns about student-centered instructional methods and offer responses. Much of the discussion involves issues associated with cooperative learning, the method that in our experience occasions the most vehement student resistance.

## **FACULTY CONCERNS**

### **If I spend time in class on active learning exercises, I'll never get through the syllabus.**

You don't have to spend that much time on in-class work to have a significant impact with it. Simply ask questions occasionally and give the students a short time to come up with solutions and answers, working either individually or in small groups. Then collect answers from several randomly selected individuals or groups. One or two such exercises that take a total of 5-10 minutes can keep a class relatively attentive for an entire period.

On a broader note, much of what happens in most classes is a waste of everyone's time. It is neither teaching nor learning. It is stenography. Instructors recite their course notes and transcribe them onto the board, the students do their best to transcribe as much as they can into their notebooks, and the information flowing from one set of notes to the other does not pass through anyone's brain. A more productive approach is to put substantial portions of the course notes-lengthy prose, detailed derivations, complex diagrams-in handouts or coursepaks, leaving gaps to be filled in and sprinkling questions and instructions like "Prove," "Justify," "Verify," "Explain" throughout the presentation. Spend class time only on the most critically important and conceptually difficult parts of the notes, leaving the students to cover the rest for themselves. The many hours of class time you will save by doing this should be more than sufficient for all the active learning exercises you might want to use. Your classes will be more lively and effective, you will still cover the syllabus, and you might even be able to augment it to include topics you never had time to cover before. Moreover, if you announce

that some of the gaps and exercises in the handouts will be the subject of test questions and then keep your promise, the students will even *read* the handouts—at least after the first test.

**If I don't lecture I'll lose control of the class.**

That's one way to look at it. Another is that several times during a class period your students may become heavily involved in working on or arguing about what you're trying to get them to learn, and it may take a few seconds (never longer once you get the hang of it) to bring their attention back to you. There are worse problems!

**I assign readings but many of my students don't read them and those who do seem unable to understand the material independently.**

In our experience, the only reliable way to compel most students to read the assigned material is to test them on it without covering all of it in class. Some instructors use short quizzes at the beginning of every period for this purpose; others who don't want to spend that much class time giving and grading quizzes prefer to include questions on the readings in their regularly scheduled examinations. In either case, the instructors soon learn that testing students on material not explicitly covered in class inevitably leads to vigorous protests. There are several ways to ease the students' transition from reliance on the instructor to self-reliance. Create graphic organizers that visually illustrate the structures and key points of the readings (Bellanca 1990) and later ask the students to do so. Prepare study guides that summarize critical questions answered by the readings and then include some of the questions on the exams. Give brief or extended writing assignments that call on the students to explain portions of the readings in their own words. Well-constructed writing assignments compel students to process material actively, identifying important points or connecting the material to their prior knowledge (Brent and Felder 1992).

**Some of my students just don't seem to get what I'm asking them to do—they keep trying to find "the right answer" to open-ended problems, they still don't have a clue about what a critical question is, and the problems they make up are consistently trivial.**

An essential feature of any skill development program is practice and feedback. Most students have never been taught to solve open-ended problems or think critically or formulate problems, so that the first time you assign such an exercise they will probably do it poorly. Collect their products and provide constructive comments. In addition, reproduce several products (perhaps slipping in one of your own as well), hand them out without attribution, go over some of them in class to illustrate the sort of thing you're looking for, and suggest ways to make good products even better. Modeling of this type helps students understand the process they need to go through to improve their own work. After several similar assignments and feedback sessions, students will start giving you the kind of results you're looking for and they will also begin giving one another meaningful feedback in group work. This approach serves a double purpose: the students gain more skill and confidence and you gain a classroom of teaching assistants who can help each other learn. By the end of the course some of them may be performing at a surprisingly high level.

**When I tried active learning in one of my classes, many of the students hated it. Some refused to cooperate and made their hostility to the approach and to me very clear.**

Instructors who set out to try student-centered instruction in a class for the first time are often unpleasantly surprised by the fierce negativity of some responses. Many who don't anticipate such reactions get discouraged when they encounter them, give up, and go back to more comfortable but less effective methods.

To minimize resistance to any student-centered method, try to persuade the students from the outset that you are neither playing a game nor performing an experiment, but teaching in a way known to help students learn more and understand better. You can reinforce your point about the effectiveness of SCI by offering variations on one or more of the following observations:

- You've all had the experience of sitting through a good lecture, believing that you understood it, and then later when you tried to do the homework you realized that you didn't get it at all. By putting you to work in class I'm giving you a jump start on understanding the material and doing the homework efficiently.*
- Unless you're a Zen monk, you can't sit still and keep your mind focused on one thing for more than a few minutes. In lectures your attention drifts, first for short intervals, then for longer ones, and by the end of a straight 50-minute lecture you're probably getting less than 20% of what's being said. Doing something active from time to time during the lecture substantially increases the amount of information you actually get. It also cuts way down on boredom.*
- When you go out to work, I guarantee you'll be working in teams. When companies fill out surveys asking them what skills they want their new employees to have, teamwork skills are usually ranked either first or second. Since working in teams is what you're going to be doing on your job, you may as well start learning how to do it now.*
- (To students complaining about being slowed down by having to explain material they understand to slower teammates.) If you ask any professor, "When did you really learn thermodynamics (or structural analysis or medieval history)?" the answer will almost always be "When I had to teach it." Suppose you're trying to explain something and your partner doesn't get it. You may try to put it in another way, and then think of an example, then another one. After a few minutes of this your partner may still not get it, but you sure will.*

In our experience, most students bright enough to complain about being held back by their classmates are also bright enough to recognize the truth of the last argument.

**I'm having a particularly hard time getting my students to work in teams. Many of them resent having to do it and a couple of them protested to my department head about it.**

Cooperative learning tends to be the hardest student-centered method to sell initially, especially to high academic achievers and strong introverts. The points given above about the prevalence of teamwork on most jobs, the importance of teamwork skills to most employers,

and the fact that we learn best what we teach, can help. Perhaps the most effective selling point for cooperative learning (unfortunately) involves grades. Many research studies have demonstrated that students who learn cooperatively get higher grades than students who try to learn the same material individually (Johnson *et al.* 1991b). Before assigning group work for the first time, we may mention a study (Tschumi 1991) in which an instructor taught an introductory computer science course three times, once with the students working individually and twice using group work, with common examinations in the first two classes. In the first class, only 36% of the students earned grades of C or better, while in the classes taught cooperatively, 58% and 65% of the students did so. Those earning A's in the course included 6.4% (first offering) and 11.5% (second offering) of those who worked cooperatively and only 3% of those who worked individually. There was some student resentment about group work in the first cooperative offering and almost none in the second one, presumably because the instructor was more skilled in the method the second time and possibly because the students in the second cooperative class knew about the results from the first class.

Persuading students that group work is in their interest is only the first step in making this instructional approach work effectively. The instructor must also structure group exercises to promote positive interdependence among team members, assure individual accountability for all work done, facilitate development of teamwork skills, and provide for periodic self-assessment of group functioning. Techniques for achieving these goals are suggested by Johnson *et al.* (1991a), Felder and Brent (1994), and many other books and articles in the recent education literature. Instructors new to cooperative learning are advised to have several such references handy when planning activities and assignments and dealing with problems.

**If I assign homework, presentation, or projects to groups, some students will "hitchhike," getting credit for work in which they did not actively participate.**

This is always a danger, although students determined to get a free ride will usually find a way whether the assignments are done individually or in groups. In fact, cooperative learning that includes provisions to assure individual accountability-such as individual tests on the material in the group assignments-cuts down on hitchhiking (Johnson *et al.* 1991a,b). Students who don't actually participate in the homework will generally fail the tests, especially if the assignments are challenging (as they always should be if they are assigned to groups) and the tests truly reflect the skills involved in the assignments. If the group work only counts for a small fraction of the overall course grade (say, 10-20%), hitchhikers can get high marks on the homework and still fail the course.

One way to detect and discourage hitchhiking is to have team members individually or collectively distribute the total points for an assignment among themselves in proportion to the effort each one put in. Students want to be nice to one another and so may agree to put names on assignments of teammates who barely participated, but they are less likely to credit them with high levels of participation. Another technique is to call randomly on individual team members to present sections of project reports or partial solutions to problems, with everyone in the group getting a grade based on the selected student's response. The best students will then make it their business to see that their teammates all understand the complete solutions,

and they will also be less inclined to put a hitchhiker's name on the written product and risk having him or her be the designated presenter.

**Many of the cooperative teams in my class are not working well-their assignments are superficial and incomplete and some team members keep complaining to me about others not participating.**

The interpersonal challenges of cooperative learning may be severe. Students have widely varying intellectual abilities, work ethics, and levels of sensitivity to criticism, and a substantial part of the cooperative learning experience is learning how to confront and work through the conflicts that inevitably arise from these variations.

One way to get groups off to a good start is to have them formulate and write out a set of team standards and expectations, sign it, make copies for themselves, and turn in the original to you. As the course proceeds, have them periodically evaluate how well they are working as a team to meet those standards and what they might do to work more effectively. You may invite teams with serious problems to have a session in your office. If they do, try to help them find their own solutions rather than telling them what they should do.

Taking a few minutes in class to focus on critical teamwork skills can make a major difference in how groups function. Periodically select an important activity like brainstorming or resolving conflicts and offer tips in class on effective ways to carry out the activity. An effective technique is to present a short scenario describing a common problem and brainstorm solutions with the class.

You may also give teams the last resort option of firing uncooperative members after giving them at least two warnings, and you may give individuals carrying most of the workload the option of joining another group after giving their uncooperative teammates at least two warnings. In our experience, teams almost invariably find ways of working things out themselves before these options have to be exercised.

**Teams working together on quantitative problem assignments may always rely on one or two members to get the problem solutions started. The others may then have difficulties on individual tests, when they must begin the solutions themselves.**

This is a legitimate concern. An effective way to minimize it is for each team member to set up and outline each problem solution individually, and then for the team to work together to obtain the complete solutions. If the students are instructed in this strategy and are periodically reminded of it, most of them will discover its importance and effectiveness and adopt it. There is also merit in assigning some individual homework problems to give the students practice in the problem-solving mode they will encounter on the tests.

**I teach a class containing students in minority populations that tend to be at risk academically. Does active, cooperative learning work in this kind of setting?**

In fact, the most frequently cited cooperative learning success story comes from the minority education literature. Beginning in the mid-1970's, Uri Treisman, a mathematics professor then at the University of California-Berkeley, established a group-based calculus honors program, reserving two-thirds of the places for minority students whose entering credentials suggested that they were at risk. The students who participated in this program ended with a higher retention rate after three years than the overall average for all university students, while minority students in a control population were mostly gone after three years. Treisman's model has been used at many institutions with comparable success (Fullilove and Treisman 1990). In another study, George (1994) tested several cooperative learning techniques on a predominantly African-American psychology class and compared their performance with that of a control group taught noncooperatively. She found that group work led to significant improvements in both academic achievement and attitudes toward instruction.

When using cooperative learning in classes that include minority students-ethnic minorities, or women in engineering and other nontraditionally female fields-try to avoid groups in which the minority students are isolated. Felder *et al.* (1995) report a study of cooperative learning in a sequence of engineering courses. Women responded to group work with overwhelming approval, but many indicated that they tended to assume less active roles in group discussions and some reported that their ideas tended to be devalued or discounted within their teams. The likelihood of these occurrences is reduced if a team contains more than one member of the minority population.

**Even though I've done everything the experts recommend, some of my students still complain that they don't like the student-centered approach I'm using and they would have learned more if they had taken a "normal" class.**

They could be right. Students have a variety of learning styles and no instructional approach can be optimal for everyone (Claxton and Murrell 1987; Felder 1993; Grasha 1990, 1994). In the end, despite our best efforts, some students fail and some who pass continue to resent our putting so much of the burden of their learning on their shoulders. One of our students once wrote in a course-end evaluation, "*Felder really makes us think!*" It was on the list of things he disliked. On the other hand, for all their complaints about how hard we are on them, our students on the average do better work than they ever did when we just lectured, and many more of them now tell us that after getting through one of our courses they feel confident that they can do anything. So you may lose some, but you can expect to win a lot more.

In short, we are convinced that the benefits of properly implemented student-centered instruction more than compensate for any difficulties that may be encountered when implementing it. Instructors who follow recommended SCI procedures when designing their courses, who are prepared for initially negative student reactions, and who have the patience and the confidence to wait out these reactions, will reap their rewards in more and deeper student learning and more positive student attitudes toward their subjects and toward themselves. It may take an effort to get there, but it is an effort well worth making.

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## Appendix C

### Training Programme Module One

#### Cooperative Learning

#### PowerPoints

***Double click on the image below to access the PowerPoint slides***



**COOPERATIVE LEARNING**

(Millis and Cottell, 1998)

"A widely circulated cartoon by Bud Blake shows a young boy declaring of his dog, "I taught Stripe how to whistle." A skeptical friend notes, "But I don't hear him whistling." The boy retorts, "I said I taught him to whistle. I didn't say he learned it."

## **Appendix D**

### **Training Programme Module Two**

#### **Assessing Cooperative Learning**

##### **Course Booklet**

# COOPERATIVE LEARNING

**“A widely circulated cartoon by Bud Blake shows a young boy declaring of his dog, “I taught Stripe how to whistle.” A skeptical friend notes, “But I don’t hear him whistling.” The boy retorts, “I said I taught him to whistle. I didn’t say he learned it.”**

(Millis & Cottell, 1998)



## Facilitators

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## MODULE TWO: ASSESSING COOPERATIVE LEARNING

A professional development programme funded by Ako Aotearoa

## Assessing Cooperative Learning

**“I hear and I forget. I see and I remember. I do and I understand.”  
(Confucius 551BC – 479BC)**

**“Tell me and I’ll listen. Show me and I’ll understand. Involve me and I’ll learn.”  
(Teton Lakota Indians)**

9.00- 9.15am	Cooperative Activity
9.15 - 9.45am	The process of assessment
9.45 - 10.15am	Jigsaw Activity: Group assessment Principles

<b>10.15-10.30am</b>	<b>Morning tea</b>
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10.30 -11.15 am	Group assessment methods
11.15 -11.50 noon	Designing an assessment
11.50 -12.00 noon	Wrap up

# Assessing Cooperative Learning



“Assessment decisions affect virtually all aspects of learning because they send clear signals to students about what teachers value.” (Millis & Cottell, 1998).

But it is so hard to get it right with cooperative learning!

# Assessment problems!

## Tutors said:

- The main problem [with CL] is the free rider principle where a hopeless student (often Asian with poor English skills) tags onto a group and receives an inflated mark.
- Some groups allow social loafing.
- Student perceptions of inequity of work completed in relation to final grades.
- Some students end up passing when they really should not.
- It is difficult to establish whether students have really learned what they are supposed to do.
- Measurement of effort by peers and self (students need to be trained to do this well)
- Difficulty of recognizing individual achievement.
- Marking is more open to interpretation and marks are more difficult to defend.
- Marks tend to pull down the high achievers and pull up the low achievers and this is not fair.
- Those likely to fail can pass, setting up false expectations for other individual assessments.

## Students said:

- The fact people can do very little work and still gain a high mark because of the work other members have submitted.
- Incompetence of other group members.
- That our total course mark is affected by the work (or lack of it) of others.
- Sometimes students just rely on one person to do all the work.
- A lazy group member can get a good mark even though they contributed little to the team.
- Peer assessments may be biased.
- (NZ European student) In a multi cultural group I was left to do 80% of the work; however in a non mixed race group this did not happen.
- Easier to do it myself because having to rely on others who don't want to pass with high marks disadvantages my mark.
- I don't like being put in the role of "dobbing" them in if they do not pull their weight. I pay to be taught, not the enforcer of rules.
- (Chinese student) Chinese students rely almost entirely on Kiwi students. Kiwi students' English is surely better than any other non native English speaking students. In this way we can get high marks.....I know it is not good to get high marks in this way.

**You can probably add to these yourself!**

# The process of assessment: product, process or both?

- Specify the objectives of the assessment
- Decide the criteria for success
- Decide how you will assess whether students have met the criteria
- Design the documentation

“The students’ anxieties about grades are likely to rise if their instructor’s procedures make them uncertain about what they must do in order to attain a good grade. For many students, democratic methods seem unorganized and ambiguous. In any ordinary course, students know they can pass by reading assignments and studying lecture notes, but in a student centred class they are in a course where the instructor doesn’t lecture, doesn’t make assignments, and doesn’t even say which student comments are right or wrong. The student simply doesn’t know what the instructor is trying to do. Thus, if your teaching and grading procedures differ from those your student is used to, you need to be especially careful to specify the procedures and criteria used in grading.”

(McKeachie, 1994, p112)

## Assessment methods for group work

ASSESSMENT OPTION	ADVANTAGES	DISADVANTAGES
Equally shared mark. The same mark for everyone in the group.	<ul style="list-style-type: none"> <li>• Encourages group-work and group discussion as groups sink or swim together.</li> <li>• Straightforward method.</li> <li>• Cuts down marking.</li> <li>• Reduces individual anxiety.</li> </ul>	<ul style="list-style-type: none"> <li>• Individual contributions are not reflected in the marks.</li> <li>• No recognition of individual excellence.</li> <li>• Stronger students may be unfairly disadvantaged by weaker students and vice versa.</li> <li>• May not motivate all students; can encourage free riding.</li> <li>• Often perceived as unfair by students.</li> <li>• Unfamiliar to students who are used to being evaluated individually.</li> </ul>
Individual marks. The allocated task is divided up into parts, and the parts are marked separately.	<ul style="list-style-type: none"> <li>• Ensures individual participation.</li> <li>• Motivating.</li> <li>• Rewards good performance and penalises poor performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to find tasks that are exactly equal in size/complexity.</li> <li>• Does not encourage the group process/collaboration.</li> <li>• Dependencies between tasks may slow progress of some students.</li> </ul>
Individual marks by using an individual report at end of the group activity. (examples pp 14- 15)	<ul style="list-style-type: none"> <li>• Ensures individual accountability.</li> <li>• Perceived as fair by students.</li> </ul>	<ul style="list-style-type: none"> <li>• The way in which individual reports should differ is often unclear to students so plagiarism can be increased.</li> </ul>
Individual marks based on an examination/ test held after group project is finished. The mark may be added to the group mark or may be the only mark.	<ul style="list-style-type: none"> <li>• May increase motivation to learn from the group project and to learn from other members of the group.</li> <li>• Seen as fair by students.</li> <li>• Identifies slackers.</li> <li>• Allows deserving students the opportunity to shine.</li> </ul>	<ul style="list-style-type: none"> <li>• May diminish the importance of group work.</li> <li>• Gives additional work to tutors.</li> <li>• Can generate anxiety in students.</li> <li>• May unduly reward students who are good at written examinations and tests.</li> </ul>
Direct evaluation by tutor to modify the group mark for individual group members. <ul style="list-style-type: none"> <li>• oral interviews</li> <li>• meeting minutes</li> <li>• observation</li> <li>• group reports</li> </ul>	<ul style="list-style-type: none"> <li>• Oral interviews are an effective way of getting information on individual participation.</li> <li>• Enables the tutor to give each student specific feedback.</li> <li>• Makes students reflect on their own performance.</li> </ul>	<ul style="list-style-type: none"> <li>• Very time consuming.</li> <li>• Class size might make it infeasible.</li> <li>• Information obtained may be subjective or inaccurate.</li> <li>• Oral interviews can be stressful for students.</li> </ul>

ASSESSMENT OPTION	ADVANTAGES	DISADVANTAGES
<p>Peer assessment</p> <p>a) Students redistribute a pool of marks; the group has to explain its decisions. Team members score their relative contribution out of 100. If all worked equally hard they are all allocated 100% of the mark for the assessment. If one team member contributes only half as much, that team member is given 50% of the marks.</p>	<ul style="list-style-type: none"> <li>• Shares the assessment responsibility; group members are usually in a better position to judge relative contribution to the group.</li> <li>• Easy to implement.</li> <li>• May motivate students to contribute more.</li> <li>• Transferable negotiation and appraisal skills are developed.</li> <li>• Has the potential to reward good performance.</li> <li>• May be perceived as fairer than a shared mark.</li> <li>• Reduces free-riding.</li> <li>• Puts value on individual contributions.</li> <li>• Gives ownership of decisions to the group.</li> </ul>	<ul style="list-style-type: none"> <li>• Open to subjective evaluation.</li> <li>• May lead to conflict that students can't manage.</li> <li>• May encourage competition.</li> <li>• Students may not have required negotiation skills.</li> <li>• Can be intimidating.</li> <li>• Requires training students.</li> <li>• Group needs to be mature to cope with this method.</li> <li>• Can result in everyone just agreeing to have the same mark to avoid unpleasantness.</li> <li>• Has to be monitored carefully by the tutor.</li> <li>• Some students don't like doing this.</li> </ul>
<p>Peer assessment</p> <p>b) A peer assessment form is filled in by all students and the tutor adjusts the marks accordingly. (Example: See the Felder and Brent system pp 16-18).</p> <p>Can be done anonymously on line; international students seem to prefer this.</p>	<ul style="list-style-type: none"> <li>• Encourages a sense of involvement, responsibility and accountability.</li> <li>• Helps students develop appraisal skills.</li> <li>• Increases prompt feedback to students.</li> <li>• Easy to implement.</li> <li>• Can motivate students to contribute more.</li> </ul>	<ul style="list-style-type: none"> <li>• Students need training to carry out the process.</li> <li>• Teacher moderation is time consuming.</li> <li>• Open to subjective evaluations; can be perceived as unfair and based on students' popularity or unpopularity.</li> <li>• Some students are reluctant to mark down peers.</li> <li>• Group members may agree on an equal mark to avoid conflict.</li> <li>• Can be seen as inhibiting co-operation.</li> <li>• Has to be monitored carefully.</li> <li>• Some students don't want this responsibility.</li> </ul>
<p>Contribution marks are added to the final product mark.</p> <p>A mark is given by the tutor for the product and group members are asked</p>	<ul style="list-style-type: none"> <li>• Usually perceived as fair.</li> <li>• Gives the message that process is important.</li> <li>• Doesn't put complete responsibility on the group members.</li> </ul>	<ul style="list-style-type: none"> <li>• Students need training to carry out the process.</li> <li>• Some students are reluctant to mark down peers.</li> <li>• May agree on the same mark for all to avoid conflict.</li> </ul>

<p>to peer assess an additional mark for contribution. (Example, Stewart’s system pp 19-21).</p>	<ul style="list-style-type: none"> <li>• Final mark weights group performance more heavily to encourage collective effort.</li> <li>• Helps students develop appraisal skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Some students don’t want this responsibility.</li> <li>• Some students perceive peer assessment as being too subjective. (This concern is not backed up by research.)</li> </ul>
<p>Self-assessment – students assess their own contribution to the work of the group and the tutor adjusts the marks accordingly. Usually carried out alongside peer assessment. (Example pp 22-23).</p>	<ul style="list-style-type: none"> <li>• Encourages personal responsibility.</li> <li>• May develop self-awareness.</li> <li>• May develop better understanding of learning outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>• Students can tend to make judgements based on what they meant to do rather than what they actually achieved.</li> <li>• Some teachers and students believe it is not reliable or valid (though research does not back this up.)</li> <li>• It is hard to design questions that ensure thoughtful responses.</li> </ul>
<p>Award equal mark to all members of the group and then give individual tasks.</p>	<ul style="list-style-type: none"> <li>• Recognises individual effort.</li> </ul>	<ul style="list-style-type: none"> <li>• Difficult to find enough tasks of equal complexity.</li> <li>• Increases marking.</li> </ul>

**Task:**

- **Read through the different methods and highlight the method/ methods that appeal to you and would be appropriate for courses that you teach.**
- **Reflect on any adaptations that you might want to make.**
- **Discuss your thoughts with the rest of your group concentrating particularly on how to overcome the disadvantages of methods that appeal to you.**

# Principles of good assessment

## Group one:

### Principle one: Assessment practices and processes must be transparent and fair.

- Assessments must have clear written criteria and performance standards that are made available to students at the beginning of the trimester.

For example (for a written report):

Criterion for the introduction:	<ul style="list-style-type: none"><li>• The purpose/goals/objectives of the report are clearly stated.</li></ul>
Performance standards:	<ul style="list-style-type: none"><li>• The interest of the reader is gained and the purpose of the report is clear.</li><li>• A clear proposition is outlined.</li></ul>

- Assessments must be designed to ensure that there are no inherent biases that might disadvantage any student or student group.
- There must be procedures designed to ensure that assessments are as fair as possible.

#### Issues for transparency and fairness of group assessment:

- Sometimes tutors say to student groups, “If any students do not pull their weight I may adjust their marks” but this is not acceptable as the criterion for “pulling their weight”, the tutor’s opinion is vague and subjective. How can a tutor make decisions on comparative contribution transparent and fair?
- If group assessment is to be without inherent bias, tutors must ensure that international students, for example, are given all the prior knowledge that might be assumed by an assessment e.g. knowledge of New Zealand’s political or economic background. What are other possible biases that might need to be addressed?
- Procedures ensuring fairness must include a process for appeals. What must a tutor do to ensure that decisions on group work can stand up to an appeal?
- Students often believe that peer and self assessment in groups is unfair and subjective. How can a tutor develop fair and transparent criteria and performance standards for self or peer assessment?

## **Group two:**

### **Principle two: Assessments must be reliable.**

Reliability refers to the consistency of assessment measurement. A way of thinking about reliability is to imagine a kitchen scale; if you weigh a kilo of sugar in the morning and the scale is reliable, the same scale should measure a kilo in the afternoon. It should read the same measurement regardless of who is operating the scale and should give the same weight as other brands of scales.

To achieve reliability in classroom assessment:

- The assessor must be reliable. Are his/her decisions consistent or does close examination show some inconsistency of assessment decisions?
- Assessment methods must be reliable i.e. if you use group work as an assessment method for an accounting project, the results must be consistent with results from an individual examination on the topic.
- Finally, the assessment must be reliable in that it will give a similar result on different occasions and if it is administered by different assessors.

### **Issues for reliability of group assessments:**

- It is very difficult, if not impossible, to ensure reliability for assessment of qualities such as cooperation and contribution in groups. Does this mean we shouldn't be assessing these factors? (Remember that industry wants students trained and assessed in interpersonal skills as they are important for the workplace.)
- A common problem with group assessment is that students often achieve better (or worse) results in their group work compared with their individual work; these results are therefore not reliable. This will happen when all students in a group are given the same mark. How can this problem be addressed?
- Peer and self assessment can improve the reliability of group assessments but how do you overcome problems of student subjectivity if you use these methods?

## Group three:

### Principle three: Assessments must be valid.

Validity refers to the accuracy of assessment measurement: whether the assessment measures what it is supposed to measure. Even if an assessment is reliable it might not be valid; if all other scales tell you that you weigh 70 kilos but your own bathroom scales consistently tell you that you weigh 65 kilos it might cheer you up but it is hardly accurate measurement! For a scale to be valid it must measure your actual weight. Since tutors, students and employers make important decisions based on assessment the validity of an assessment is considered to be more important than its reliability.

There are two kinds of validity that a tutor must consider:

- **Content validity:** the extent to which the contents of an assessment match the published learning objectives of the course. If a trimester examination includes only content covered in the last three weeks but students have been told that the whole trimester will be tested, the examination has very little content validity. A problem with cooperative learning can be that an assessment might need to measure both product and process but actually only measures the product. For example, if a course's objectives include being able to construct a business plan and being able to work in a group, a tutor might combine the two objectives in a group business plan task but omit to measure specifically an individual's ability to work in a group. This assessment is therefore invalid.
- **Face validity:** the extent to which an assessment looks valid and makes sense to the student

### Issues for validity of group assignments:

- Self assessment and peer assessment can increase the validity of some assessments but some students believe that it simply measures a student's popularity or unpopularity; it therefore has low face validity. How can you overcome perceived problems of student subjectivity?
- How can you assess concepts such as "leadership" in groups?
- Students are often suspicious of the face validity of group assignments: "How can a group task assess a person's individual knowledge? Wouldn't a written examination be better?" How can a tutor address this concern?

- 1. Discuss the principle that your group has been allocated and make sure that everyone in your group understands it.**
- 2. Discuss the issues for your principle and try to come to a consensus.**
- 3. You will then be assigned to another group where you will explain your principle and summarise conclusions reached about the issues to that group.**

# Example of combined individual and group assessment:

**(Connecticut Common Core of Learning Alternative Assessment in Science)**

**Step one (as an individual):** students individually list the factors that influence yeast's activity in food and are tested on this.

**Step two (as a group):** three person groups design, carry out, interpret and summarise (in writing and orally to the class) an experiment investigating the activity of yeast in food. This is marked as a group.

**Step three (as an individual):** students work individually to analyse and critique a report about an experiment that was written by another group. This is marked on an individual basis.

**Lecturers using this assessment report that its strengths are:**

- It rewards individual excellence
- The cooperative section allows students to learn from each other
- Students recognise that the cooperative section is much easier to do in a group than as an individual
- Students realize that when they do the final individual section they have learned a lot from other students.

## Example of an assessment using an individual report at the end of a group activity:

**Lesson one:** students work individually on short answer questions about relevant content knowledge.

**Lesson two:** students work in groups to carry out research.

**Lesson three:** students work individually to interpret the information obtained from their research from the previous lesson and to apply the information to a problem. Individual reports are handed in for marking.

# Forms for peer assessment

## Reproduced with permission from Richard Felder

(R M Felder and R Brent <http://www.ncsu.edu/felder-public/CLforms.doc>)

### Team Member Evaluation Form\*

The following evaluation of your team members is a tool to help improve your experience with group work. Its purpose is to determine those who have been active and cooperative members as well as to identify those who did not participate. Be consistent when evaluating each group member's performance by using the guidelines given below.

1 – never    2 – rarely    3 – sometimes    4 – usually    5 – always

Name of student being evaluated: \_\_\_\_\_

Circle your responses.

Has the student attended your group meetings?                    1    2    3    4    5

Has the student notified a teammate if he/she would not be able to attend a meeting or fulfill a responsibility?                    1    2    3    4    5

Has the student made a serious effort at assigned work before the group meetings?                    1    2    3    4    5

Does the student attempt to make contributions in group meetings when he/she can?                    1    2    3    4    5

Does the student cooperate with the group effort?                    1    2    3    4    5

Overall rating on the following scale: \_\_\_\_\_ (Insert one of the given words.)

<b>Excellent</b>	Consistently went above and beyond—tutored teammates, carried more than his/her fair share of the load
<b>Very good</b>	Consistently did what he/she was supposed to do, very well prepared and cooperative
<b>Satisfactory</b>	Usually did what he/she was supposed to do, acceptably prepared and cooperative
<b>Ordinary</b>	Often did what he/she was supposed to do, minimally prepared and cooperative
<b>Marginal</b>	Sometimes failed to show up or complete assignments, rarely prepared
<b>Deficient</b>	Often failed to show up or complete assignments, rarely prepared
<b>Unsatisfactory</b>	Consistently failed to show up or complete assignments, unprepared
<b>Superficial</b>	Practically no participation
<b>No show</b>	No participation at all

\* Adapted from a form in *Cooperative Learning and College Teaching*, reprinted in B.J. Millis and P.G. Cottell, Jr., *Cooperative Learning for Higher Education Faculty*, Oryx Press, Phoenix, 1998.

### Peer Rating of Team Members \*

Name \_\_\_\_\_ Group # \_\_\_\_\_

Please write the names of all of your team members, INCLUDING YOURSELF, and rate the degree to which each member fulfilled his/her responsibilities in completing the homework assignments. The possible ratings are as follows:

- Excellent**      Consistently went above and beyond—tutored teammates, carried more than his/her fair share of the load
- Very good**     Consistently did what he/she was supposed to do, very well prepared and cooperative
- Satisfactory**   Usually did what he/she was supposed to do, acceptably prepared and cooperative
- Ordinary**       Often did what he/she was supposed to do, minimally prepared and cooperative
- Marginal**       Sometimes failed to show up or complete assignments, rarely prepared
- Deficient**       Often failed to show up or complete assignments, rarely prepared
- Unsatisfactory** Consistently failed to show up or complete assignments, unprepared
- Superficial**     Practically no participation
- No show**         No participation at all

*These ratings should reflect each individual's level of participation and effort and sense of responsibility, not his or her academic ability.*

<u>Name of team member</u>	<u>Rating</u>	<u>Reason for Rating &lt; Satisfactory</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Your signature: \_\_\_\_\_

\* R.M. Felder, 2004. Each student fills out this form, instructor collects and uses to adjust team project grades for individual team members using procedure on following page.

## Autorating System \*

1. Determine group project or average homework grade.
2. Convert individual verbal ratings to numbers:
  - Excellent = 100
  - Very good = 87.5
  - Satisfactory = 75
  - Ordinary = 62.5
  - Marginal = 50
  - Deficient = 37.5
  - Unsatisfactory = 25
  - Superficial = 12.5
  - No show = 0
3. On a spreadsheet, enter numerical ratings received by team members in rows. In the “Vote 1” column are the votes given by Betty to herself, Carlos, John, and Angela; under “Vote 2” are all of the votes given by Carlos, etc.
4. Average individual marks, calculate overall team average, calculate adjustment factors as individual average divided by team average. **Impose an upper limit of 1.05 on any individual student’s adjustment factor.** Doing so avoids raising grades of teammates of students with very low ratings by more than half a letter grade.
5. Individual project grade = (team grade) x (adjustment factor). **The instructor reserves the right to disregard anomalous ratings.**

### Example

Team project grade	80							Indiv. Proj. Grade
Name	Vote 1	Vote 2	Vote 3	Vote 4	Indiv. Avg.	Team Avg.	Adj. Fctr.	
Betty	87.5	87.5	75	87.5	84.4	82.0	1.02	82
Carlos	87.5	100	87.5	87.5	90.6	82.0	1.05	84
John	62.5	75	50	75	65.6	82.0	0.80	64
Angela	87.5	87.5	87.5	87.5	87.5	82.0	1.05	84

---

\*This sheet is for instructor use and is not handed out to students. Adapted from Brown, R. W. (1995). *Autorating: Getting individual marks from team marks and enhancing teamwork*. 1995 *Frontiers in Education Conference Proceedings*, Paper 3C24. For a complete reprint, contact Rob Brown at [rwb@rmit.edu.au](mailto:rwb@rmit.edu.au).

To read about research done on the effectiveness of this instrument, see Kaufman, D. B., **Felder**, R. M., & Fuller, H. (2000). Accounting for individual effort in cooperative learning teams. *Journal of Engineering Education*, 89 (2), 133–140. [http://www.ncsu.edu/felder- public/Papers/Kaufmanpap.pdf](http://www.ncsu.edu/felder-public/Papers/Kaufmanpap.pdf)

# An example of peer assessment

## Assessing Group Work

### A method for determining individual marks with peer assessment

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- Step 1** Mark the group product. This is the work that the group has produced, e.g. report or group presentation. This is the group mark.
- Step 2** Decide the proportion of the group mark subject to peer assessment. This will be a percentage between 0 and 100%.
- Step 3** Calculate each student's peer assessment factor. (See page 2.)
- Step 4** Calculate each student's mark.
- Mark = (proportion not subject to peer assessment × group mark) + (proportion subject to peer assessment × group mark × peer assessment factor)

## Example

A group's mark was 75%. The tutor decides that 30% of this is subject to peer assessment. Therefore, 70% of the group mark is not subject to peer assessment. A student's peer assessment factor was 0.65. The student's individual mark would be calculated as follows.

- 70% of the group mark is not subject to peer assessment. This gives (70% × 75) marks, i.e. 52.5
- 30% of the group mark is subject to peer assessment and the student's peer assessment factor is 0.65. The student's mark for the peer assessed portion of the mark is (30% × 75 × 0.65), i.e. 14.6
- The student's total mark = 52.5 + 14.6 = 67.1%

Using the formula in step 4, the mark = (70% × 75) + (30% × 75 × 0.65) = 52.5 + 14.6 = 67.1%

The mark for a student whose peer assessment factor was 1.0 would be:

$$(70\% \times 75) + (30\% \times 75 \times 1.0) = 52.5 + 22.5 = 75\%$$

## Calculating the peer assessment factor

- Step 1** Decide the peer assessment criteria. These may be group process criteria (e.g. leadership, contribution to discussion), product related criteria (e.g. ideas for project, collection of data), or a combination of both.
- Step 2** Carry out the peer assessment. Each student assesses the other group members using the peer assessment sheet (see page 3).
- Step 3** Calculate the student's peer assessment factor =  $\frac{\text{Student's median score}}{\text{Maximum score}}$   
The median score is the middle ranked score. If there is an even number of scores, the median is the average of the two middle scores. For example, if the scores were 5, 7, 8, 9, 9, the median score is 8. If the scores were 4, 7, 8, 9, there are two middle scores, 7 and 8, so the median is 7.5. Using the median, eliminates the effect of any untypical scores.  
Each of the criteria is marked 0, 1, or 2 (see peer assessment sheet), so the maximum score = the number of criteria  $\times$  2.

### Example

Suppose there are 5 criteria for the peer assessment and a student's peer assessment scores were 1, 7, 8, 9, 9 and 10. There are two middle scores, 8 and 9, so the median is 8.5. With 5 criteria the maximum mark is  $5 \times 2$ , i.e. 10.

The peer assessment factor, rounded to two decimal places is:

$$= \frac{8.5}{10} = 0.85$$

# Peer Assessment Sheet

---

**Student:**

**Peer assessor:**

Criteria	Met all group requirements (full contribution)	Met some requirements (half contribution)	Met none of the requirements (no contribution)
1.	2	1	0
2.	2	1	0
3.	2	1	0
4.	2	1	0
5.	2	1	0

**Total score =**

**Signed:**

**Date:**

(Reproduced with permission from Stewart Wilson, Wellington Institute of Technology.)

# Example of self assessment

## Group work self assessment

### Methods

- **Ask students to include themselves on their peer evaluation sheet.**  
Make sure that students have practice and guidance in self and peer evaluation before the final evaluation.
- **Ask students to rate themselves on a separate sheet. E.g.:**

Rate yourself on the following characteristics using a scale of 1 – 10 where  
10 = highest degree    5 = average degree    1 = lowest degree.

To what extent did you fulfill the roles you were given in your group

To what extent did you participate in discussions in your group?

To what extent did you listen to others in the group, encourage them, and value their opinions?

To what degree did you help other members of your group when appropriate?

To what degree did you complete the work that was allocated to you by the group?

To what degree were you responsible with your time in your group? i.e. you attended all meetings, you attended them on time, and you completed allocated work on time.


TOTAL

My strengths in this group were

.....

I will be a better group member next time by

.....

- **Set a reflective essay (backed up by a personal log or diary) with marks allocated to this part of the assessment.**

If you use this method remember to:

1. set predetermined clear criteria
2. have a valid mark allocation
3. give students guidance in what is expected of them.


## Appendix E

### Training Programme Module Two

#### Assessing Cooperative Learning

#### PowerPoints

*Double click on the image to access the PowerPoint slides*



COOPERATIVE LEARNING

(Millis and Cottell, 1998)

"A widely circulated cartoon by Bud Blake shows a young boy declaring of his dog, "I taught Stripe how to whistle." A skeptical friend notes, "But I don't hear him whistling." The boy retorts, "I said I taught him to whistle. I didn't say he learned it."

**Appendix F**

**Training Programme Module Three**

**Diversity in Groups**

**Course Booklet**

# COOPERATIVE LEARNING

**“A widely circulated cartoon by Bud Blake shows a young boy declaring of his dog, “I taught Stripe how to whistle.” A skeptical friend notes, “But I don’t hear him whistling.” The boy retorts, “I said I taught him to whistle. I didn’t say he learned it.”**

(Millis & Cottell, 1998)



## Facilitators

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## MODULE THREE: DIVERSITY IN GROUPS

A professional development programme funded by Ako Aotearoa

# Diversity in Groups



## Cooperative Learning Module Three: Diversity in groups

**“I hear and I forget. I see and I remember. I do and I understand.”  
(Confucius 551BC – 479BC)**

**“Tell me and I’ll listen. Show me and I’ll understand. Involve me and I’ll learn.”  
(Teton Lakota Indians)**

9.00 - 9.30 am      Cooperative Activity  
9.30 -10.00 am      Hofstede’s Dimensions  
10.00 -10.30 am      Class discussion: Diversity in Groups

**10.30-10.45am                      Morning tea**

10.45- 11.15 am      Group activity: Who has to go?  
11.15 -11.30              Cooperative learning model  
11.30 –11.50 am      Group activity: Preparing and monitoring diverse groups  
11.50 –12 noon              Wrap up

# Hofstede's Dimensions

Geert Hofstede categorized cultures according to four dimensions and although recent research has criticized some aspects of his work the basic concepts are generally held to be useful when trying to understand the expectations of different cultures.

The power distance dimension measures the extent to which the less powerful members of organizations (including families and classrooms) accept and expect that power is distributed unequally.

<p>Expectations of teachers and students in small power distance societies are that:</p> <ul style="list-style-type: none"> <li>• The “truth “ can come from any competent person</li> <li>• Education should be student centred</li> <li>• Teachers should respect the independence of their students</li> <li>• It is OK for students to contradict or criticize a teacher</li> <li>• It is OK for students to speak spontaneously in a classroom</li> </ul>	<p>Expectations of teachers and students in large power distance societies are that:</p> <ul style="list-style-type: none"> <li>• “Wisdom” comes from the teacher</li> <li>• Education should be teacher centred</li> <li>• It is not OK for students to contradict or criticize a teacher</li> <li>• Students speak when they are invited to do so.</li> </ul>
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The Individualistic/ collectivist dimension measures the degree to which individuals think of themselves as members of a group rather than as individuals.

<p>Expectations of teachers and students in individualistic societies are that:</p> <ul style="list-style-type: none"> <li>• You respect what is “new”</li> <li>• Students are in the classroom to learn how to learn</li> <li>• Individual students are encouraged to speak up in class</li> <li>• Confrontation can be valuable</li> <li>• Teachers will be impartial towards students</li> </ul>	<p>Expectations of teachers and students in a collectivist society are that:</p> <ul style="list-style-type: none"> <li>• You respect “tradition”</li> <li>• Students are in the classroom to learn how to do things</li> <li>• Formal harmony in a learning situation must be maintained at all times</li> <li>• No teacher or student should ever be made to “lose face”</li> <li>• Education is seen as a way of gaining prestige and advancement and joining a higher status group</li> <li>• Gaining a qualification, even through illegal means, is more important than gaining competence</li> <li>• Teachers are expected to give preferential treatment to some students.</li> </ul>
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The femininity/ masculinity dimension measures the value a society places on traditional female or male values.

<p>Expectations of teachers and students in feminine societies are that:</p> <ul style="list-style-type: none"> <li>• Teachers avoid openly praising students</li> <li>• A student’s failure in a class is a relatively minor issue</li> <li>• Teachers who are friendly are admired</li> <li>• Mutual solidarity is important</li> <li>• Modesty is important</li> <li>• Students will probably choose subjects according to their intrinsic interest.</li> </ul>	<p>Expectations of teachers and students in masculine societies are that:</p> <ul style="list-style-type: none"> <li>• Teachers will openly praise good students</li> <li>• Failure will be seen as a huge blow to a student’s self image</li> <li>• Teachers who are brilliant are admired</li> <li>• Competition is a good thing</li> <li>• Students will try to stand out academically</li> <li>• Students will probably choose subjects according to their career potential.</li> </ul>
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The weak and strong uncertainty avoidance dimension measures a society’s tolerance for uncertainty and ambiguity.

<p>Expectations of teachers and students in weak uncertainty avoidance societies are that:</p> <ul style="list-style-type: none"> <li>• Students will be comfortable in unstructured learning situations with vague objectives, broad assignments, flexible timetables.</li> <li>• It is OK for teachers to say “I don’t know”</li> <li>• Students will be rewarded for innovative approaches to problem solving</li> <li>• Intellectual disagreement will be seen as stimulating.</li> </ul>	<p>Expectations of teachers and students in strong uncertainty avoidance societies are that:</p> <ul style="list-style-type: none"> <li>• Students will be comfortable in structured learning situations with precise objectives, detailed assignments, structured timetables</li> <li>• It is not OK for teachers to say “I don’t know”; they are expected to have all the answers</li> <li>• Students will be rewarded for accuracy in problem solving</li> <li>• Intellectual disagreement will be seen as personal disloyalty.</li> </ul>
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**Discuss in groups:**

- where your own culture and the different cultural groups you teach fit into Hofstede’s dimensions.
- the implications of the four dimensions for multi cultural group work.
- what a lecturer could do to help multi cultural groups develop a group culture to override their individual ethnic cultures and expectations. Be prepared to offer your suggestions to the rest of the class

**Reference: Hofstede, G. (1986). Cultural differences in teaching and learning. *International Journal of Intercultural Relations*, 10, 301-320.**

## “Who has to go?”

**You are taking a business course and have been put in groups to carry out a project where you are to develop a marketing plan for a local business. There are six students in your group:**

1. Jing (20 years old): a Chinese first year international student. Her English is adequate to express herself but she has problems with New Zealand slang and finds it difficult to keep up with the group discussions. She passed two papers in Trimester one.
2. Tom (35 years old): a New Zealand European student, male, who has had 17 years work experience. He is a part time student and is not very happy about having to work in a group; he would much rather do an individual project. This is his fourth paper for the Diploma. He has two children of school age.
3. Vaine (25 years old): a female Tokelaun student who has some problems with English but is very enthusiastic about working in a group. This is her third paper for the Diploma. She is unmarried but has a partner. No children.
4. Mary (40 years old): a female New Zealand European mature student who left school at 15 and is now very keen to catch up on her education. She has completed five papers for the Diploma all with A grades. She has three children of school age.
5. Shane (18 years old): a New Zealand European student who has just left school. He was turned down for Massey because his NCEA results were not good enough but is hoping that a year at WelTec will mean that he is accepted by Massey for 2011. This is his first paper for the Diploma.
6. You!

The tutor tells you that your group has too many students in it and you are to choose one person to be transferred to another group which has too few students. Who is to go?

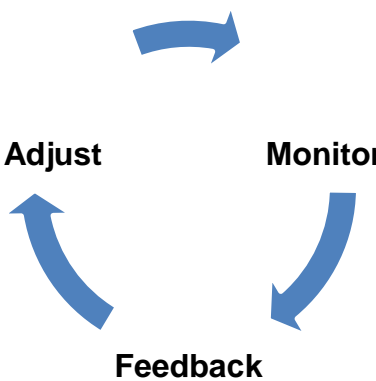

## Modifying the status effect

Dealing with inequitable interactions among students during group work is a problem that must be addressed if low status students are to fully participate in group activities. Cohen et al (1990) proposed that there are a number of initiatives that teacher need to consider to address status issues for low status [students]. These include the following:

- Training students in the interpersonal and small group skills needed to promote cooperation in small group settings. Learning to listen to others, providing opportunities for members to talk and share ideas, and assigning rotating roles to each member of the group will do much to solve the problem of access by low status students to interaction.
- The curriculum materials need to be rich and stimulating and presented in such a way that they require different types of contributions from each group member. Cohen (1994) argues that when the task is open and discovery based so there is no single right answer, students are forced to interact about the process and discuss how to proceed, make decisions, and divide up both the task and how to manage the substantive content involved. In these circumstances, students tend to engage in more productive discussions as they work to resolve the problem at hand.
- Students need to understand that no single group member will be able to complete the task because multiple abilities, talents or skills are required. In this way, students learn that there are different ways to be “smart” and that all members have contributions to make.
- Teachers need to acknowledge publicly the contributions of low status- students. It’s important that their contributions are genuine so that other students realize that they can provide a key component to completing the task and will interact with them.

**Reproduced with permission from Robyn M. Gillies: Cooperative Learning: Integrating Theory and Practice.**

# A cooperative learning model for use with diverse student groups

Phase			
	Train	Process	Debrief
<b>Lecturer</b>	<p><b>1</b></p> <p>Lecturers are trained in cooperative learning techniques</p>	<p><b>3</b></p> <p>Groups are selected Group work begins Group processes are monitored by lecturer and students</p>	
<b>Student</b>	<p><b>2</b></p> <p>Students are trained in cooperative learning techniques</p>	<p><b>Adjust</b>      <b>Monitor</b></p>  <p><b>Feedback</b></p>	<p><b>4</b></p> <p>Students are debriefed</p>
<b>Time</b>			

**Stage one: Lecturers are trained in:**

**A Understanding the pedagogical reasons for using cooperative learning** and judging when it is appropriate and when it is inappropriate to assess student work done in groups.

**B Understanding group dynamics**

- The stages of group development.
- Group roles including leadership.
- Group decision-making techniques.
- Conflict management techniques.
- Group norms and group management issues.
- Lecturer responsibilities in student group development and issues.

**C Understanding and managing cross -cultural differences and assumptions in student groups including:**

- Participation/ silence.
- Conflict solving/ the importance of harmony.
- Cultural differences in decision- making techniques.
- Locus of control.
- Collectivism/ individualism.
- Response to authority/ ‘power distance’ orientation.
- Concept of “face”.
- Concept of “guanxi” (networks, relationships)
- High context/ low context cultures.

The emphasis should be on sending “an unambiguous message of equality to students.” (de Vita, 2000). One culture is not perceived as better than another; important values in all cultures are endorsed.

**D Structuring cooperative assessments appropriately**

- A task is designed that is complex and requires a range of higher cognitive skills and insights and is therefore easier for a group to complete than an individual. The task should involve more than writing (which is an individual activity). It should involve applying a rule or using course concepts to solve a problem so that group members are forced to interact, and should involve the team members in meeting over a reasonable length of time. Presentations, business simulations, video productions are appropriate; “product” assignments such as group papers are not appropriate. Tasks should be “fuzzy” to encourage extensive discussion on how to proceed (although the task brief must be clear).
- Marks are allocated for what you want the group to achieve e.g. interaction.
- Cooperative verbs are used when defining a task e.g. compile, collect and compare.
- Requirements do not favour the cultural and life experiences of any one particular group. Ensure that international students have any additional background knowledge that might be necessary.
- The context of the group task is adapted where possible to recognise the diverse cultural backgrounds of group members.
- High individual accountability **and** rewards for group achievement are built in.
- Regular external feedback is built in.
- Comparisons with other groups can be introduced as a motivating factor.

## **E Assessing appropriately**

- The aims of the assessment are made explicit and prioritised before the assessment method is designed.
- The criteria for assessment are decided.
- A decision is made on the use of peer and self-assessment.
- Marks are allocated fairly according to individual contribution.
- If product and process are both important, then both are assessed.
- The process is assessed fairly e.g. minutes, student or group logs, reflective accounts.

- A decision is made on whether the lecturer will incorporate testing for evidence of individual learning outcomes.

## **Stage 2: Students are prepared for cooperative work**

- Appropriate size and membership for groups is chosen: lecturer selected or self-selected.
- Clear written instructions are given. The group process and expected outcomes are made explicit. Allocation of marks is clarified; fairness is emphasised.
- Reasons for group work are discussed with the class: how it fits in with course objectives/ importance in the workplace/ pedagogical rationale/ how it fits in with other teaching methods/ skills students will learn from working in groups. A positive attitude to teamwork as a learning tool is promoted.
- Cultural differences and stereotypes are discussed. The emphasis is placed on integration (not an assumption that International students must do all the changing). A culture of valuing diversity is encouraged.
- Cultural attitudes are discussed with the class (e.g. participation, silences, stating opinions, respect for authority and received knowledge, critical thinking)
- A shared understanding of effective team -work is developed with the class.
- A foundational assignment is given to students to ensure that they all have a common body of knowledge and an appropriate level of skill. If specific background cultural knowledge is an inherent part of the group task, international students are provided with the information.
- Preparatory group (“pre-teamwork”) exercises are carried out in diverse groups e.g. pair work, jigsaw exercises.
- Interpersonal skills (e.g. conflict solving, giving feedback) are practised.
- Intrapersonal skills (e.g. reflection) are practised.
- Previous group experiences are discussed with the class. Potential problems at both individual level and team level are discussed.
- Group dynamics and group processes are explained

- Agenda and action minutes are explained and templates issued to the class. Guidance on running effective meetings is given.
- “Coping with hitchhikers and couch potatoes on teams” (Oakley, 2003) is discussed with the class.

### **Stage 3 Classes are given the group assignment**

- Groups of a maximum of seven members are organised.
- International students are not placed singly in groups of domestic students.
- Lecturers are sensitive to global cultural conflicts.
- Groups participate in team building and “getting to know you” activities within their groups. Commitment to the team is encouraged. Competition with other groups is encouraged. Students are helped to become familiar with each other’s skills, learning styles, knowledge and capabilities.
- A “shared vision” is created in each group. This is restated at the beginning of every meeting.
- Groups are encouraged to develop written group objectives and ground rules.
- Groups decide on a regular written schedule for meetings and group tasks. The importance of effective time management is emphasised. An appropriate meeting place is decided.
- Groups determine group processes (e.g. the leadership system they want, expectations for participation, procedures for dealing with “free riders”, specific conflict solving procedures, formal mechanisms for critique and evaluation such as devil’s advocate). This is done before the project begins.
- A group contract is created and signed, and a coordinator is appointed to act as guardian of these processes.
- Regular group processing sessions (with specific tasks) are timetabled.
- Regular tutorial time is provided to discuss problems and to give students time to work on their team projects. This signals the lecturer’s interest in the process and reduces the likelihood of students meeting just long enough to divide up the work.

- Practice in peer and self- assessment is given.

#### **Stage 4 Groups are debriefed**

- Students are given an opportunity to reflect on and/or discuss their group experience (e.g. reflective account, class discussion).
- Students are asked to give feedback on lecturer management of the group project.
- Lecturers reflect on the effectiveness of the group process.

#### **References**

- De Vita, G. (2000) Inclusive approaches to effective communication and active participation in the multicultural classroom: an international business management context, *Active Learning in Higher Education*, 1(2), 168-180.
- Felder, R.M., & Brent, R. (2000). *Effective teaching*. North Carolina State University.
- Gillies, R. (2007). *Cooperative learning: integrating theory and practice*. Sage Publications: California.
- Oakley, B. (2003). *Coping with hitchhikers and couch potatoes on teams*. Retrieved February 18, 2010, from <http://ctl.stanford.edu/Tomprof/postings/441.html>

# Group contract

Felder, R. M., & Brent, R.

Group work isn't always easy – group members sometimes will not prepare for or attend group sessions because of other responsibilities, and conflicts often result from differing skill levels and work ethics. When groups work and communicate well, however, the benefits more than compensate for the difficulties. One way to improve the chances that a group will work well is to agree beforehand on what everyone in the group expects from everyone else.

Your group will have a number of responsibilities as it completes the group assignment.

- *Agree on a goal for your group.* Your goal may be to pass the assignment but what grade are you aiming for? Is every group member prepared to commit to the time and effort required to achieve that grade?
- *Appoint a group leader*
- *Agree on meeting times and tasks that each member should complete before the meeting.* You should have face-to-face meetings as well as computer mediated meetings (Moodle, Internet etc)
- *Decide on work norms.* How will you deal with the different work habits of individual team members (e.g., some people like to get assignments done as early as possible; others like to work under the pressure of a deadline)? How will you decide what tasks group members will do? What will happen if someone doesn't follow through on a commitment (e.g., misses a deadline, doesn't show up to a meeting)? What happens if people have different opinions on the quality of the work? What will you do if one person seems to be dominating the group process? What will you do if you feel you are doing most of the work?
- *Agree on decision making techniques.* Will you need approval of every group member before making a decision? What will you do if every group member except one agrees on something?
- *Decide how you will deal with any conflict that arises in the group*
- *Decide on a policy for dealing with non-cooperative group members and have it approved by your lecturer*

Guidelines for dealing with non-cooperative group members:

- If a group member refuses to cooperate on the assignment, the group should meet with the lecturer so that the problem can be resolved, if possible.
- If the problem continues the group members may notify the uncooperative member that they are in danger of being fired from the group. The lecturer must also be notified at the same time.
- If there is no improvement they should notify the uncooperative group member that they are no longer part of the group. The fired student must meet with the lecturer to discuss their options. Students who are fired must find another group willing to work with them or they will get no marks for the assignment.
- Alternatively a group may decide that a student who has not contributed to the assignment should not have his/her name included on the completed work.

**On a sheet of paper type your names and list the rules and expectations you agree as a group to adopt. You can include any or all aspects of the responsibilities outlined above. Each group member should sign the sheet, indicating acceptance of the contract. Give one copy to your lecturer and keep copies for yourselves.**

**Adapted with permission from Felder, R.M., & Brent, R. (2000). *Effective teaching*. North Carolina State University**

## Coping with hitchhikers and couch potatoes on teams

Oakley, B., Felder, R. M., Brent, R., & Elhadj, I.

Let's imagine you have been assigned to a group this semester with three others: Mary, Henry, and Jack. Mary is okay-she's not good at solving problems, but she tries hard, and she willingly does things like get extra help from the professor. Henry is irritating. He's a nice guy, but he just doesn't put in the effort to do a good job. He'll sheepishly hand over partially worked homework problems and confess to spending the weekend watching TV. Jack, on the other hand, has been nothing but a problem. Here are a few of the things Jack has done:

*\* When you tried to set up meetings at the beginning of the semester, Jack just couldn't meet, because he was too busy.*

*\* Jack infrequently turns in his part of the homework. When he does, it's almost always wrong-he obviously spent just enough time to scribble something down that looks like work.*

*\* Jack has never answered phone messages. When you confront him, he denies getting any messages. You e-mail him, but he's "too busy to answer."*

*\* Jack misses every meeting-he always promises he'll be there, but never shows up.*

*\* His writing skills are okay, but he can't seem to do anything right for lab reports. He loses the drafts, doesn't reread his work, leaves out tables, or does something sloppy like write equations by hand. You've stopped assigning him work because you don't want to miss your professor's strict deadlines.*

*\* Jack constantly complains about his fifty-hour work weeks, heavy school load, bad textbooks, and terrible teachers. At first you felt sorry for him-but recently you've begun to wonder if Jack is using you.*

*\* Jack speaks loudly and self-confidently when you try to discuss his problems-he thinks the problems are everyone else's fault. He is so self-assured that you can't help wondering sometimes if he's right.*

Your group finally was so upset they went to discuss the situation with Professor Distracted. He in turn talked, along with the group, to Jack, who in sincere and convincing fashion said he hadn't really understood what everyone wanted him to do. Dr. Distracted said the problem must be the group was not communicating effectively. He noticed you, Mary, and Henry looked angry and agitated, while Jack simply looked bewildered, a little hurt, and not at all guilty. It was easy for Dr. Distracted to conclude this was a dysfunctional group, and everyone was at fault-probably Jack least of all.

**The bottom line:** You and your teammates are left holding the bag. Jack is getting the same good grades as everyone else without doing any work. Oh yes-he managed to make you all look bad while he was at it.

### **What this group did wrong: Absorbing**

This was an 'absorber' group. From the very beginning they absorbed the problem when Jack did something wrong, and took pride in getting the job done whatever the cost. Hitchhikers count on you to act in a self-sacrificing manner. However, the nicer you are (or the nicer you think you are being), the more the hitchhiker will be able to hitchhike their way through the university-and through life.

### **What this group should have done: Mirroring**

It's important to reflect back the dysfunctional behaviour of the hitchhiker, so the hitchhiker pays the price-not you. Never accept accusations, blame, or criticism from a hitchhiker. Maintain your own sense of reality despite what the hitchhiker says, (easier said than done). Show you have a bottom line: there are limits to the behaviour you will accept. Clearly communicate these limits and act consistently on them. For example, here is what the group could have done:

*\* When Jack couldn't find time to meet in his busy schedule, even when alternatives were suggested, you needed to decide whether Jack was a hitchhiker. Was Jack brusque, self-important, and in a hurry to get away? Those are suspicious signs. Someone needed to tell Jack up front to either find time to meet, or talk to the professor.*

*\* If Jack turns nothing in, his name does not go on the finished work. (Note: if you know your teammate is generally a contributor, it is appropriate to help if something unexpected arises.) Many professors allow a team to fire a student, so the would-be freeloader has to work alone the rest of the semester. Discuss this option with your instructor if the student has not contributed over the course of an assignment or two.*

*\* If Jack turns in poorly prepared reports, you must tell him he has not contributed meaningfully, so his name will not go on the submitted work. No matter what Jack says, stick to your guns! If Jack gets abusive, show the professor his work. Do this the first time the junk is submitted, before Jack has taken much advantage-not after a month, when you are really getting frustrated.*

*\* Set your limits early and high, because hitchhikers have an uncanny ability to detect just how much they can get away with.*

*\* If Jack doesn't respond to e-mails, answer phone messages, or show up for meetings, don't waste more time trying to contact him.*

*\* Keep in mind the only one who can handle Jack's problems is Jack. You can't change him—you can only change your own attitude so he no longer takes advantage of you. Only Jack can change Jack—and he will have no incentive to change if you do all his work for him.*

People like Jack can be skilled manipulators. By the time you find out his problems are never-ending, and he himself is their cause, the semester has ended and he is off to repeat his manipulations on a new, unsuspecting group. Stop allowing these dysfunctional patterns early in the game—before the hitchhiker takes advantage of you and the rest of your team!

### **Henry, the Couch Potato**

But we haven't discussed Henry yet. Although Henry stood up with the rest of the group to try to battle against Jack's irrational behavior, he hasn't really been pulling his weight. (If you think of yourself as tired and bored and really more interested in watching TV than working on your homework—everyone has had times like these—you begin to get a picture of the couch potato.)

You will find the best way to deal with a couch potato like Henry is the way you deal with a hitchhiker: set firm, explicit expectations—then stick to your guns. Although couch potatoes are not as manipulative as hitchhikers, they will definitely test your limits. If your limits are weak, you then share the blame if you have Henry's work to do as well as your own.

### **But I've Never Liked Telling People What to Do!**

If you are a nice person who has always avoided confrontation, working with a couch potato or a hitchhiker can help you grow as a person and learn the important character trait of firmness. Just be patient with yourself as you learn. The first few times you try to be firm, you may find yourself thinking—'but now he/she won't like me—it's not worth the pain!' But many people just like you have had exactly the same troubled reaction the first few (or even many) times they tried to be firm. Just keep trying—and stick to your guns! Someday it will seem more natural and you won't feel so guilty about having reasonable expectations for others. In the meantime, you will find you have more time to spend with your family, friends, or schoolwork, because you aren't doing someone else's job along with your own.

### **Common Characteristics that Allow a Hitchhiker to Take Advantage**

- *Unwillingness to allow a slacker to fail and subsequently learn from their own mistakes.*
- *Devotion to the ideal of 'the good of the team'—without common-sense realization of how this can allow others to take advantage of you. Sometimes you show (and are secretly proud of) irrational loyalty to others.*
- *You like to make others happy even at your own expense.*

- *You always feel you have to do better—your best is never enough.*
- *Your willingness to interpret the slightest contribution by a slacker as ‘progress.’*
- *You are willing to make personal sacrifices so as to not abandon a hitchhiker—without realizing you are devaluing yourself in this process.*
- *Long-suffering martyrdom—nobody but you could stand this.*
- *The ability to cooperate but not delegate.*
- *Excessive conscientiousness.*
- *The tendency to feel responsible for others at the expense of being responsible for yourself.*

### **A related circumstance: you’re doing all the work**

As soon as you become aware everyone is leaving the work to you—or doing such poor work that you are left doing it all, you need to take action. Many professors allow you the leeway to request a move to another team. (You cannot move to another group on your own.) Your professor will probably ask some questions before taking the appropriate action.

### **Later on—out on the job and in your personal life**

You will meet couch potatoes and hitchhikers throughout the course of your professional career.

Couch potatoes are relatively benign, can often be firmly guided to do reasonably good work, and can even become your friends. However, hitchhikers are completely different people—ones who can work their way into your confidence and then destroy it. (Hitchhikers may infrequently try to befriend you and cooperate once you’ve gained their respect because they can’t manipulate you. Just because they’ve changed their behavior towards you, however, doesn’t mean they won’t continue to do the same thing to others.) Occasionally, a colleague, subordinate, supervisor, friend, or acquaintance could be a hitchhiker. If this is the case, and your personal or professional life is being affected, it will help if you keep in mind the techniques suggested above.

**Adapted and reproduced with permission from:**  
**Oakley, B., Felder, R., Brent, R., & Elhaji, I. (2004). Turning student groups into effective teams. *Journal of Student Centered Learning* 2 (1), 9-34.**

## Putting it all together

### Scenario:

This semester you are responsible for running the industry projects for your programme. Your students will work in groups to complete a 16 week long project for an external client. The class of 30 is divided into six diverse groups composed of students from New Zealand, China, India and Samoa.

1. How will you prepare your groups for the group assignment?
2. What is the tutor's role once the groups have begun the group task?
3. What plans will you put in place to ensure issues of status and diversity do not cause conflict in the groups?

## Appendix G

### Training Programme Module Three

#### Diversity in Groups

#### PowerPoints

***Double click on the image below to access the PowerPoint slides***



**COOPERATIVE LEARNING**

(Millis and Cottell, 1998)

"A widely circulated cartoon by Bud Blake shows a young boy declaring of his dog, "I taught Stripe how to whistle." A skeptical friend notes, "But I don't hear him whistling." The boy retorts, "I said I taught him to whistle. I didn't say he learned it."

## **Appendix H**

### **Training in cooperative learning: Evaluation form**

What did you like about the course?

Was the scope and the depth of the content appropriate for your needs?

What could have been covered more quickly?

What needed more time?

Was there any aspect of cooperative learning you were interested in that was not covered?

Was the pre-reading helpful? Please comment.

Were the course booklets helpful? Please comment.

Please comment on the course delivery.

Other feedback or comments that you would like to make.