LDR Workshop
Design and implementation of effective teamwork for student learning and leadership development

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Workshop Layout

Welcome, Overview, & Introductions
• Our Stories

Course Design Foundations
• How Learning Works – How People Learn – Understanding by Design

Teamwork
• Rationale and Essential Elements
• Decision Making exercise

Cooperative Jigsaw: Teamwork and Leadership
• Rationale
• Key Elements

Applications in LDR 101 or other courses
Overall Goal

Build your knowledge of evidence-based practices for integrating teamwork into LDR 101 or other courses, and your implementation repertoire.

Workshop Objectives

Participants will be able to:
◦ Describe key features of evidence-based instruction and effective, teamwork strategies for facilitating learning
◦ Summarize key elements of Course Design Foundations
  ◦ How Learning Works and How People Learn (HPL)
  ◦ Understanding by Design (UbD) process – Content (outcomes) – Assessment – Pedagogy
◦ Explain key features of and rationale for integrating teamwork
◦ Identify connections between cooperative learning and desired outcomes of courses and programs

Participants will begin applying key elements to the design of their courses
Reflection and Dialogue

Systematic integration of teamwork can be achieved by structuring student-student engagement

Individually reflect on your favorite rationale for engaging students. Write for about 1 minute.

- Context/Audience? E.g., prior FYS section, seminar, lab
- Why engaging students is important?
- What support do you have for your rationale?

Discuss with your neighbor for about 2 minutes
- Select/create a response to present to the whole group if you are randomly selected

Seven Principles for Good Practice in Undergraduate Education

Good practice in undergraduate education:

- Encourages student-faculty contact
- Encourages cooperation among students
- Encourages active learning
- Gives prompt feedback
- Emphasizes time on task
- Communicates high expectations
- Respects diverse talents and ways of learning

Engaged Pedagogies = Reduced Failure Rates

Evidence-based research on learning indicates that when students are actively involved in their education they are more successful and less likely to fail. A new PNAS report by Freeman et al., shows a significant decrease of failure rate in active learning classroom compared to traditional lecture.

Freeman, Scott; Eddy, Sarah L.; McDonough, Miles; Smith, Michelle K.; Okoroafor, Nnadozie; Jordt, Hannah; Wenderoth, Mary Pat; Active learning increases student performance in science, engineering, and mathematics, 2014, Proc. Natl. Acad. Sci.
Many different approaches offer alternatives to straightforward lectures and tightly structured labs. Possibilities include...cooperative learning, techniques that solicit immediate feedback on teaching and course content, and so on. These approaches allow students to analyze, criticize, and communicate...They help students take responsibility for their own learning. They also allow students to learn from each other, building communities of learners and teachers that extend beyond the classroom.

*From Analysis to Action: Undergraduate Education in Science, Mathematics, Engineering, and Technology, The National Research Council, 1996*
Mixing it up (in the classroom and lab) to engage students in their own learning

Diversity is not simply a matter of having people who look different sitting next to each other but learning in the same way. What I’m trying to introduce into the conversation is the power of collaboration, of bringing together people who bring different kinds of skills to solving a problem. That diversity can empower creative ways of learning.

Studies show that groups with a mix of skills, backgrounds and ways of thinking are better at solving complex multidimensional problems — like designing environmental policies, cracking codes or creating social welfare systems — even if the individuals in the group are not all high performers.

*Lani Guinier Redefines Diversity, Re-Evaluates Merit*  
*New York Times Education Life, February 6, 2015*
Karl’s Rationale for Engaging Students

First Teaching Experience – Third-year course in metallurgical reactions – thermodynamics and kinetics

Lila M. Smith
Engineering Education

Practice – Third-year course in metallurgical reactions – thermodynamics and kinetics
Research – ?
Theory – ?

University of Minnesota College of Education
Social, Psychological and Philosophical Foundations of Education

- Statistics, Measurement, Research Methodology
- Assessment and Evaluation
- Learning and Cognitive Psychology
- Knowledge Acquisition, Artificial Intelligence, Expert Systems
- Development Theories
- Motivation Theories
- Social Psychology of Learning: Student – Student Interaction
Cooperative Learning

Research – Randomized Design Field Experiments
Practice – Formal Teams/Professor’s Role

Theory
Research Evidence
Practice
Cooperative Learning Introduced to Engineering – 1981


Cooperative Learning Research Support


- Over 300 Experimental Studies
- First study conducted in 1924
- High Generalizability
- Multiple Outcomes

Outcomes
1. Achievement and retention
2. Critical thinking and higher-level reasoning
3. Differentiated views of others
4. Accurate understanding of others' perspectives
5. Liking for classmates and teacher
6. Liking for subject areas
7. Teamwork skills
Cooperative Learning is instruction that involves people working in teams to accomplish a common goal, under conditions that involve both positive interdependence (all members must cooperate to complete the task) and individual and group accountability (each member is accountable for the complete final outcome).

Key Concepts

• Positive Interdependence
• Individual and Group Accountability
• Face-to-Face Promotive Interaction
• Teamwork Skills
• Group Processing

http://personal.cege.umn.edu/~smith/links.html

Undergraduate Teaching Faculty: The 2013–2014 HERI Faculty Survey

Figure 2. Changes in Faculty Teaching Practices, 1989 to 2014 (% Marking “All” or “Most” Courses)

The American College Teacher: National Norms for 2007-2008

<table>
<thead>
<tr>
<th>Methods Used in “All” or “Most”</th>
<th>All – 2005</th>
<th>All – 2008</th>
<th>Assistant - 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative Learning</td>
<td>48</td>
<td>59</td>
<td>66</td>
</tr>
<tr>
<td>Group Projects</td>
<td>33</td>
<td>36</td>
<td>61</td>
</tr>
<tr>
<td>Grading on a curve</td>
<td>19</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>Term/research papers</td>
<td>35</td>
<td>44</td>
<td>47</td>
</tr>
</tbody>
</table>

Undergraduate Teaching Faculty, 2011*

<table>
<thead>
<tr>
<th>Methods Used in “All” or “Most”</th>
<th>STEM women</th>
<th>STEM men</th>
<th>All other women</th>
<th>All other men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperative learning</td>
<td>60%</td>
<td>41%</td>
<td>72%</td>
<td>53%</td>
</tr>
<tr>
<td>Group projects</td>
<td>36%</td>
<td>27%</td>
<td>38%</td>
<td>29%</td>
</tr>
<tr>
<td>Grading on a curve</td>
<td>17%</td>
<td>31%</td>
<td>10%</td>
<td>16%</td>
</tr>
<tr>
<td>Student inquiry</td>
<td>43%</td>
<td>33%</td>
<td>54%</td>
<td>47%</td>
</tr>
<tr>
<td>Extensive lecturing</td>
<td>50%</td>
<td>70%</td>
<td>29%</td>
<td>44%</td>
</tr>
</tbody>
</table>

*Undergraduate Teaching Faculty. National Norms for the 2010-2011 HERI Faculty Survey,

http://www.heri.ucla.edu/index.php
Active Learning: Cooperation in the College Classroom

- **Informal** Cooperative Learning Groups
- **Formal** Cooperative Learning Groups
- Cooperative **Base** Groups

Notes: Cooperative Learning Handout (CL-College-814.doc)
[CL-College-814.doc]

Book Ends on a Class Session

Informal Cooperative Learning Groups

Can be used at any time
Can be short term and ad hoc
May be used to break up a long lecture
Provides an opportunity for students to process material they have been listening to (Cognitive Rehearsal)
Are especially effective in large lectures
Include "book ends" procedure
Are not as effective as Formal Cooperative Learning or Cooperative Base Groups

“It could well be that faculty members of the twenty-first century college or university will find it necessary to set aside their roles as teachers and instead become designers of learning experiences, processes, and environments.”

James Duderstadt, 1999
Nuclear Engineering Professor; Former Dean, Provost and President of the University of Michigan
What is your experience with course (re)design?

1. Little
2. Between 1 & 3
3. Moderate
4. Between 3 & 5
5. Extensive

Record your response (1, 2, 3, 4 or 5) on a Post-It note and add it to the histogram
What do you already know about course design?

Short Answer Questions

What do you feel are important considerations about course (re)design?

What are challenges you have faced with course (re)design?

Course Design Foundations

<table>
<thead>
<tr>
<th>Science of Learning (HPL)</th>
<th>Science of Instruction (UbD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

- Good Theory/ Poor Practice
- Good Theory & Good Practice
- Good Practice/ Poor Theory


1. Students prior knowledge can help or hinder learning
2. How student organize knowledge influences how they learn and apply what they know
3. Students’ motivation determines, directs, and sustains what they do to learn
4. To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned
5. Goal-directed practice coupled with targeted feedback enhances the quality of students’ learning
6. Students’ current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning
7. To become self-directed learners, students must learn to monitor and adjust their approach to learning
How People Learn

**HPL Framework**

Expertise implies (Ch. 2):
- a set of cognitive and metacognitive skills
- an organized body of knowledge that is deep and contextualized
- an ability to notice patterns of information in a new situation
- flexibility in retrieving and applying that knowledge to a new problem


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Concept: Curricular Priorities

**Things to Consider:**
- Are the topics **enduring and transferable** big ideas having value beyond the classroom?
- Are the topics big ideas and **core processes** at the heart of the discipline?
- Are the topics **abstract, counterintuitive, often misunderstood, or easily misunderstood** ideas requiring uncoverage?
- Are the topics big ideas **embedded in facts, skills and activities**?

Identifying Big Ideas - Exercise

Individually identify 2-3 big ideas in a course you are designing or re-designing. Write them down. ~2 min
Break into pairs to discuss ~3 min

Teamwork and LDR 101 or any course

1. Rationale for teamwork in your course
2. Characteristics of effective teamwork
3. Teamwork research
4. Structuring teamwork
Rationale for Teamwork

Several of the learning objectives in our new Gen Ed curriculum emphasize teamwork, e.g., “recognize, analyze, and employ effective teamwork.”

LRD 101 focuses on “four fundamental and leadership skills” – critical thinking, writing, public speaking, and teamwork.

What is your rationale for incorporating teamwork?

Record your rationale and your conference (Natural Science and Math, Social Science, Humanities, or Creative Arts) on a Post It Note and place it one of the Teamwork Rationale Diagrams.

Education for Life and Work

1. Introduction 15
2. A Preliminary Classification of Skills and Abilities 21
3. Importance of Deeper Learning and 21st Century Skills 37
4. Perspectives on Deeper Learning 69
5. Deeper Learning of English Language Arts, Mathematics, and Science 101
6. Teaching and Assessing for Transfer 143
7. Systems to Support Deeper Learning 185

http://www.nap.edu/catalog/13398/education-for-life-and-work-developing-transferable-knowledge-and-skills
The College Degrees And **Skills** Employers Most Want In 2015 (National Association of Colleges and Employers (NACE))

The NACE survey also asked employers to rate **the skills they most value in new hires**. Companies want candidates who can think critically, solve problems, work in a team, maintain a professional demeanor and demonstrate a strong work ethic. Here is the ranking in order of importance:

<table>
<thead>
<tr>
<th>Competency</th>
<th>Essential Need Rating*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Thinking/Problem Solving</td>
<td>4.7</td>
</tr>
<tr>
<td>Teamwork</td>
<td>4.6</td>
</tr>
<tr>
<td>Professionalism/Work Ethic</td>
<td>4.5</td>
</tr>
<tr>
<td>Oral/Written Communications</td>
<td>4.4</td>
</tr>
<tr>
<td>Information Technology Application</td>
<td>3.9</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.9</td>
</tr>
<tr>
<td>Career Management</td>
<td>3.6</td>
</tr>
</tbody>
</table>

*Weighted average, based on a 5-point scale where 1=Not essential, 2=Not very essential, 3=Somewhat essential; 4=Essential; 5=Absolutely essential
Top Three Main Engineering Work Activities

<table>
<thead>
<tr>
<th>Engineering Total</th>
<th>Civil/Architectural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design – 36%</td>
<td>Management – 45%</td>
</tr>
<tr>
<td>Computer applications – 31%</td>
<td>Design – 39%</td>
</tr>
<tr>
<td>Management – 29%</td>
<td>Computer applications – 20%</td>
</tr>
</tbody>
</table>


This is the story of these pioneers, hackers, inventors, and entrepreneurs – who they were, how their minds worked, and what made them so creative. It’s also a narrative of how they collaborated and why their ability to work as teams made them even more creative. The tale of their teamwork is important because we don’t often focus on how central that skill is to innovation.
Reflection and Dialogue

Individually reflect on the Characteristics of High Performing Teams. Think/Write for about 1 minute

- Based on your experience on high performing teams,
- Or your facilitation of high performing teams in your classes,
- Or your imagination

Discuss with your team for about 3 minutes and record a list
Characteristics of Effective Teams?

- common goals
- Complementary strengths
- Division of labor / self selected roles
- Trust and respect
- Diverse skill set
- Common goals, flexible process with facilitator
- All contributed and brought in insight
- More engaged with the problem than the rules
- Willing to seek help from a resource / party outside the group
- Ego management
- Disagree in supportive ways
- Accomplishes the goal/completes the task
- Leadership
- Right balance between meta and productivity
- Fun or at least a positive attitude
- Willingness to let other provide leadership
- Flexibility in roles
- Depending on the task, confidentiality
- ?

Team: Key Elements – Katzenbach and Smith (1993)

A team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable

- SMALL NUMBER
- COMPLEMENTARY SKILLS
- COMMON PURPOSE & PERFORMANCE GOALS
- COMMON APPROACH
- MUTUAL ACCOUNTABILITY

--Katzenbach & Smith (1993)

*The Wisdom of Teams*
Cooperative Learning is instruction that involves people working in teams to accomplish a common goal, under conditions that involve both positive interdependence (all members must cooperate to complete the task) and individual and group accountability (each member is accountable for the complete final outcome).

Key Concepts

- Positive Interdependence
- Individual and Group Accountability
- Face-to-Face Promotive Interaction
- Teamwork Skills
- Group Processing

Six Basic Principles of Team Design

- Keep membership small
- Ensure that members have complimentary skills
- Develop a common purpose
- Set common goals
- Establish a commonly agreed upon working approach
- Integrate mutual and individual accountability

Katzenbach & Smith (2001) *The Discipline of Teams*
Hackman – Leading Teams

Real Team
Compelling Direction
Enabling Structure
Supportive Organizational Context
Available Expert Coaching

Team Diagnostic Survey (TDS)
https://research.wjh.harvard.edu/TDS/

Real Team

clear boundaries

team members are interdependent for some common purpose, producing a potentially assessable outcome for which members bear collective responsibility

at least moderate stability of membership
Compelling Direction

Good team direction is:
◦ challenging (which energizes members)
◦ clear (which orients them to their main purposes)
◦ consequential (which engages the full range of their talents)

Enabling Structure

Key structural features in fostering competent teamwork
◦ **Task design**: The team task should be well aligned with the team’s purpose and have a high standing on “motivating potential.”
◦ **Team composition**: The team size should be as small as possible given the work to be accomplished, should include members with ample task and interpersonal skills, and should consist of a good diversity of membership
◦ **Core norms of conduct**: Team should have established early in its life clear and explicit specification of the basic norms of conduct for member behavior.
Edmondson - *Teaming*

Learning to team, teaming to learn

Teaming process (bottom-up)
- Teaming mindset adopted
- Reflection/feedback
- Interdependent action unfolds
- Coordination of steps and hand-offs
- Individuals communicate
- Recognize need for teaming

Four pillars of effective teaming
- Speaking up
- Collaboration
- Experimentation
- Reflection

"Teaming is the engine of organizational learning."

Teamwork on the Fly

1. Speak Up
2. Listen intensely
3. Integrate different facts and points of view
4. Experiment interactively
5. Reflect on your ideas and actions

[https://www.youtube.com/watch?v=pV15JvPwQOE](https://www.youtube.com/watch?v=pV15JvPwQOE)
Successful teams share several defining characteristics:

1. Everyone on the team talks and listens in roughly equal measure, keeping communication short and sweet.
2. Members face one another, and their conversations and gestures are energetic.
3. Members connect directly with one another – not just with the team leader.
4. Members carry on back-channel or side conversations.
5. Members periodically break, go exploring outside the team, and bring information back.

The most valuable form of communication is face-to-face. E-mail and texting are least valuable. Pentland (2012)

https://hbr.org/2012/04/the-new-science-of-building-great-teams

Structuring Teamwork in the Classroom

Formal Cooperative Learning Task Groups
Active Learning:
Cooperation in the College Classroom

**Informal** Cooperative Learning Groups

**Formal** Cooperative Learning Groups

Cooperative Base Groups

Notes: Cooperative Learning Handout (CL-College-814.doc)

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Instructor's Role in Formal Cooperative Learning

1. Specifying Objectives
2. Making Decisions
3. Explaining Task, Positive Interdependence, and Individual Accountability
4. Monitoring and Intervening to Teach Skills
5. Evaluating Students' Achievement and Group Effectiveness
Decisions, Decisions

Group size?
Group selection?
Group member roles?
How long to leave groups together?
Arranging the room?
Providing materials?
Time allocation?

Optimal Group Size?

A. 2
B. 3
C. 4
D. 5
E. 6
Formal Cooperative Learning Task Groups


Group Selection?

A. Self selection
B. Random selection
C. Stratified random
D. Instructor assign
E. Interest
Session Summary (Minute Paper)

Reflect on the session

1. Most interesting, valuable, useful thing you learned.
2. Things that helped you learn.
3. Question, comments, suggestions.
4. Pace: Too slow 1 2 3 4 5 Too fast
5. Relevance: Little 1 2 3 4 5 Lots
6. Instructional Format: Ugh 1 2 3 4 5 Ah

Agnes Scott College - Workshop (5-11-15)

Q4 – Pace: Too slow 1 . . . 5 Too fast (3.0)
Q5 – Relevance: Little 1 . . . 5 Lots (4.1)
Q6 – Format: Ugh 1 . . . 5 Ah (4.1)
Formal Cooperative Learning – Types of Tasks

1. Problem Solving, Project, or Presentation
2. Jigsaw – Learning new conceptual/procedural material
3. Group Tests
4. Review/Correct Homework
5. Peer Composition or Editing
6. Reading Comprehension/Interpretation
7. Constructive Controversy

Challenge-Based Learning

Problem-based learning
Case-based learning
Project-based learning
Learning by design
Inquiry learning
Anchored instruction

John Bransford, Nancy Vye and Helen Bateman. Creating High-Quality Learning Environments: Guidelines from Research on How People Learn

http://books.nap.edu/openbook.php?record_id=10239&page=159
Challenge-Based Learning

Cooperative Problem-Based Learning Format

**TASK:** Solve the problem(s) or Complete the project.

**INDIVIDUAL:** Develop ideas, Initial Model, Estimate, etc. Note strategy.

**COOPERATIVE:** One set of answers from the group, strive for agreement, make sure everyone is able to explain the strategies used to solve each problem.

**EXPECTED CRITERIA FOR SUCCESS:** Everyone must be able to explain the model and strategies used to solve each problem.

**EVALUATION:** Best answer within available resources or constraints.

**INDIVIDUAL ACCOUNTABILITY:** One member from your group may be randomly chosen to explain (a) the answer and (b) how to solve each problem.

**EXPECTED BEHAVIORS:** Active participating, checking, encouraging, and elaborating by all members.

**INTERGROUP COOPERATION:** Whenever it is helpful, check procedures, answers, and strategies with another group.
Team Decision Making – Ranking Tasks

Typically “survival” tasks
◦ First was Moon Survival, “Lost on the moon” developed by Jay Hall for NASA in 1967
◦ Many survival tasks available – desert survival, lost at sea, winter survival, …

Individual followed by team ranking
Different decision-making conditions in each team

Team Member Roles

Facilitator/Time Keeper
Process Recorder
Task Recorder
Skeptic/Prober
Teamwork Skills

• Communication
• Listening and Persuading
• Decision Making
• Conflict Management
• Leadership
• Trust and Loyalty

Team Decision Making...

World Mortality Causes

Below in alphabetical order, are listed the top causes of death in the world in 2012. The data were taken from the World Health Organization (WHO) Report. Your task is to rank them in order. Place the number 1 next to the item that is the most frequent cause of death, the number 2 next to the item that is the second most frequent, and so on. Then, in the last column, write in your estimate of the number of death per year.

To Group Members: TASKS
1. Individually determine the ranking.
2. Determine one ranking for the group.
3. Every group member must be able to explain the rationale for the group's ranking.
4. When your group finishes (each member has signed), (a) record your estimated number of fatalities in the World for each, and then (b) compare your ranking with that of another group.
## World Mortality Causes

<table>
<thead>
<tr>
<th>Product or Activity</th>
<th>Ranking</th>
<th>Number of Fatalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diarrheal diseases</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertensive heart disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower respiratory infections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road traffic accidents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## World Mortality Causes - 2012

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Ranking</th>
<th>Number of Fatalities (million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>8</td>
<td>1.5</td>
</tr>
<tr>
<td>Diarrheal diseases</td>
<td>7</td>
<td>1.5</td>
</tr>
<tr>
<td>Ischaemic Heart Disease</td>
<td>1</td>
<td>7.4</td>
</tr>
<tr>
<td>HIV/AIDS</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>Hypertensive heart disease</td>
<td>10</td>
<td>1.1</td>
</tr>
<tr>
<td>Lower respiratory infections</td>
<td>4</td>
<td>3.1</td>
</tr>
<tr>
<td>Road traffic accidents</td>
<td>9</td>
<td>1.3</td>
</tr>
<tr>
<td>Stroke</td>
<td>2</td>
<td>6.7</td>
</tr>
<tr>
<td>Trachea bronchus, lung disease</td>
<td>5</td>
<td>1.6</td>
</tr>
</tbody>
</table>

http://www.who.int/mediacentre/factsheets/fs310/en/
Group Processing
Plus/Delta Format

<table>
<thead>
<tr>
<th>Plus (+)</th>
<th>Delta (Δ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Things That Group Did Well</td>
<td>Things Group Could Improve</td>
</tr>
</tbody>
</table>

Team Decision-Making Process

How
- Individual
- Mathematical
- Consensus
- Iterative – H, M, L
- Both ends toward the middle

Assumptions/Biases
- Family/Friends
- News
- Youth
- Geographic location
Methods of Decision Making
(Johnson & Johnson, 1991)

1. Decision by authority without discussion
2. Expert member
3. Average of member’s opinions
4. Decision by authority after discussion
5. Majority control
6. Minority control
7. Consensus

See Table Summarizing Characteristics – Smith (20014), pp. 69-70
Choice of Decision-Making Method Depends On:

1. The type of decision to be made.
2. The amount of time and resources available.
3. The history of the group.
4. The nature of the task being worked on.
5. The kind of climate the groups wishes to establish.
6. The type of setting in which the group is working.

Johnson & Johnson, 1991

Characteristics of Effective Decisions:

1. The resources of the group members are well used.
2. Time is well used.
3. The decision is correct, or of high quality.
4. The decision is put into effect fully by all the necessary members' commitment.
5. The problem-solving ability of the group is enhanced.

Johnson & Johnson, 1991
Team Charter

- Team name, members, and roles
- Team Mission Statement
- Anticipated results (goals)
- Specific tactical objectives
- Ground rules/Guiding principles for team participation
- Shared expectations/aspirations

Team Charter Examples & Research

Team Charter – Developed by Vivian Corwin and Marilyn A. Uy for COM 321 (Organizational Behaviour) Gustavson School of Business, University of Victoria

Group Ground Rules Contract Form – Developed by Deborah Allan, University of Delaware

Project groups are an effective aid to learning, but to work best they require that all groups members clearly understand their responsibilities to one another. These project group ground rules describe the general responsibilities of every member to the group. You can adopt additional ground rules if your group believes they are needed. Your signature on this contract form signifies your commitment to adhere to these rules and expectations.

All group members agree to:
1. Come to class and team meetings on time.
2. Come to class and team meetings with assignments and other necessary preparations done.

Additional ground rules:
1.
2.

If a member of the project team repeatedly fails to meet these ground rules, other members of the group are expected to take the following actions:

Step 1: (fill in this step with your group)

If not resolved:
Step 2: Bring the issue to the attention of the teaching team.
If not resolved:
Step 3: Meet as a group with the teaching team.

The teaching team reserves the right to make the final decisions to resolve difficulties that arise within the groups. Before this becomes necessary, the team should try to find a fair and equitable solution to the problem.

Member’s Signatures:  
1. ________________________________  
2. ________________________________  
3. ________________________________  
4. ________________________________

---

**Teamwork Value Rubric**

**Definitions:**
- Capstone: behavior under the control of individual team members (i.e. what they put into their tasks, their manner of interacting with others on team, and the quantity and quality of contributions they make to team documents).
- Participation: any action, activity, or behavior that does not impact team members' ability to perform.

<table>
<thead>
<tr>
<th>Capstone</th>
<th>Milestone</th>
<th>Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to Team Meetings:</td>
<td>Helps to move more forward by activating the unseen dynamics at play in the group.</td>
<td>Contributes to a higher level of understanding of the task and the group.</td>
</tr>
<tr>
<td>Facilitates the Contributions of Team Members:</td>
<td>Encourages team members to contribute as they see fit.</td>
<td>Encourages team members to contribute to the group.</td>
</tr>
<tr>
<td>Individual Contributions Outside of Team Meetings:</td>
<td>Completes all assigned tasks by deadline.</td>
<td>Completes all assigned tasks by deadline.</td>
</tr>
<tr>
<td>Partner-Constructive Team Climate:</td>
<td>Supports a constructive team climate by doing all of the following:</td>
<td>Supports a constructive team climate by doing all of the following:</td>
</tr>
<tr>
<td>Responses to Conflict:</td>
<td>Resolves conflict directly and constructively, helping to move forward.</td>
<td>Resolves conflict directly and constructively, helping to move forward.</td>
</tr>
</tbody>
</table>

---

**Group Ground Rules Contract Form**

(Adapted from a form developed by Dr. Deborah Allen, University of Delaware)
Inside an Active Learning Classroom

STSS at the University of Minnesota

http://vimeo.com/andyub/activeclassroom

http://youtu.be/lfT_hoiuY8w

“I love this space! It makes me feel appreciated as a student, and I feel intellectually invigorated when I work and learn in it.”

Cooperative Jigsaw

Welcome to the official website of the Jigsaw Classroom, a cooperative learning technique that reduces social conflict among school children, promotes better learning, improves student motivation, and increases enjoyment of the learning experience. The Jigsaw technique was first developed in the early 1970s by Elliot Aronson and his students at the University of Texas and the University of California. Since then, hundreds of schools have used the Jigsaw Classroom with great success. The Jigsaw Classroom is considered to be a particularly valuable tool in teaching tragic events such as the Columbine tragedy.

JIGSAW SCHEDULE

COOPERATIVE GROUPS (3-4 members)

PREPARATION PAIRS

CONSULTING/SHARING PAIRS

TEACHING/LEARNING IN COOPERATIVE GROUPS

WHOLE CLASS REVIEW

www.jigsaw.org/
Cooperative Jigsaw Objectives

Participants will be able to list and describe features of each article

Participants will be able to elaborate on characteristics of high performing teams

Participants will identify features to implement in their classes

Jigsaw Schedule

Preparation ~ 20 min
- Individual skim ~10 min
- Discuss with partner ~10 min

Teach & Learn ~ 20 min
- Article 1 ~ 5 min
- Article 2 ~ 5 min
- Article 3 ~ 5 min
- Article 4 ~ 5 min

Whole Group Discussion ~ 10 min
- Key points/BIG ideas from each article
Teamwork Jigsaw:

- Article 1 [Cheruvelil, et. al. – Creating and maintaining high-performing...]
- Article 2 [Edmondson – Teamwork on the fly]
- Article 3 [Sunstein & Hastie – Making dumb groups smarter]
- Article 4 [Guinier – Ch. 6 – Tyranny of the meritocracy]

Preparation Pairs

TASKS:
- a. Master Assigned Material – Skim Article
- b. Plan How to Teach It To Group

PREPARE TO TEACH:
- a. List Major Points You Wish to Teach – 3 – 5 points
- b. List Practical Advice Related to Major Points
- c. Prepare Visual Aids/Graphical Organizers
- d. Prepare Procedure to Make Learners Active, Not Passive

COOPERATIVE: One Teaching Plan From The Two Of You, Both Of You Must Be Ready to Teach
Processing

Please complete the sentence:

One thing you did that helped me learn was . . .

Consulting/Practice Pairs

TASKS:
1. Find Someone Who Prepared To Teach the Same Article
2. Prepare Your Teaching Plan
3. Listen Carefully To Other’s Teaching Plan
4. Incorporate Other’s Best Ideas Into Your Plan

COOPERATIVE: Ensure Both of You Are Ready to Teach
Teach and Learn Group

TASK: Learn ALL the Material (All four articles)

COOPERATIVE:
  Goal: Ensure All Group Members Understand All Sections of Material
  Resource: Each Member Has One Part
  Roles: Teach, Learn

EXPECTED CRITERIA FOR SUCCESS: Everyone learns and teaches an area of expertise,
Everyone learns others’ area of expertise, Everyone summarizes and synthesizes

INDIVIDUAL ACCOUNTABILITY:
  Professor Monitors Participation of All Learners
  Team members check for understanding
  Individual implementation

EXPECTED BEHAVIORS: Good Teaching, Excellent Learning, Summarizing, Synthesizing

INTERGROUP COOPERATION: Whenever it is helpful, check procedures, answers, and strategies with another group.

Jigsaw -- Role of Listening Members

Clarify material by asking questions

Suggest creative ways to learn ideas and facts

Relate information to other strategies and elaborate

Present practical applications of information

Keep track of time

Appropriate Humor
Jigsaw Processing

Things We Liked About It                      Traps to Watch Out For

Cooperative Jigsaw

JIGSAW SCHEDULE

COOPERATIVE GROUPS (3-4 members)

PREPARATION PAIRS

CONSULTING/SHARING PAIRS

TEACHING/LEARNING IN COOPERATIVE GROUPS

WHOLE CLASS REVIEW

www.jigsaw.org/
Cooperative Learning is instruction that involves people working in teams to accomplish a common goal, under conditions that involve both positive interdependence (all members must cooperate to complete the task) and individual and group accountability (each member is accountable for the complete final outcome).

Key Concepts

- Positive Interdependence
- Individual and Group Accountability
- Face-to-Face Promotive Interaction
- Teamwork Skills
- Group Processing

Active Learning: Cooperation in the College Classroom

Informal Cooperative Learning Groups

Formal Cooperative Learning Groups

Cooperative Base Groups

See Cooperative Learning Handout (CL College-912.doc)
Cooperative Base Groups

Are Heterogeneous
Are Long Term (at least one quarter or semester)
Are Small (3-5 members)
Are for support
May meet at the beginning of each session or may meet between sessions
Review for quizzes, tests, etc. together
Share resources, references, etc. for individual projects
Provide a means for covering for absentees

Creative Performance From Students (& Faculty) Requires Maintaining a Creative Tension Between Challenge and Security


Designing and Implementing Cooperative Learning

Think like a designer
Ground practice in robust theoretical framework
Start small, start early and iterate
Celebrate the successes; problem-solve the failures
The Instructor's Role in Cooperative Learning

Make Pre-Instructional Decisions

Specific Academic and Task Objectives. Group members need both academic and task objectives to be successful. Decide on Group Size. Limiting group size can be seen as a measure to reduce confusion and maintain student attention and engagement.

Decide on Group Cooperation. Assign students to groups based on academic or task groupings. Unique grouping will ensure that the development and management of each group are dealt with.

Assign Roles. Group members need clear instructions by assigning roles such as Reader, Recorder, Exchange of Participants, and Checker for Understanding.

Assign Metacognition. Group members should be instructed with clear “How” and “Why” questions as well as clear tasks and deadlines for each task.

Plan Materials. Assignments to give a “talk or even try” message. Only may prepare the group to present their written materials to be tested.

Explain Task And Cooperative Structure

Explain the Procedures. Emphasize this section; otherwise, students may start working together. Arrange a timeline for discussion, and keep the discussion moving forward.

Assign the Cooperative Groups. Students must see their “real world” environments. Arrange students in pairs, small groups, or entire classes.

Explain the Roles for Students. Group members should understand the requirements for effective group functioning.

Explain the Expectations. The more specific you explain the behavior you want to see in the group, the more likely students will be. Good skills may be developed when working with the group, using clear signals, summarizing (monitoring), encouraging those to participate, formulating questions, discussing, and focusing (monitoring) by asking questions. Edge on teacher feedback, and small group talks can help to reduce the anxiety.

Monitor and Intervene

Arrange Time-Place Promotive Interventions. Conduct the lesson in ways that enable time to spend processes and other outcomes.

Monitor Student Behavior. This is important. When students encounter you, they should see whether their own assignment or disruption is correct or not. Monitor the progress of group work. Correct sorting does on as group and action.

Intervene to Improve Taskwork and Teamwork: For this lesson, individual goals, class goals, students, or secondary equipment. Provide teamwork, individual goals, or students experiencing difficulties are working together productively.

Evaluate and Process

Evaluate Student Learning. Assess the quality and quantity of students' learning. Grade the students in achievement.

Form Groups. Have groups understand how much work or the data on group functioning, not on improvement goals, and participate in a non-evaluative manner. Have groups already form teams before doing the main project in the lesson. Integrate activities in a whole class. Have groups achieve their success and team work.

Cooperative Lesson Planning Form

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective</td>
<td></td>
</tr>
<tr>
<td>Broader Skills</td>
<td></td>
</tr>
<tr>
<td>Pre-Instructional Decisions</td>
<td></td>
</tr>
<tr>
<td>Group Size</td>
<td>Method of Organizing Groups</td>
</tr>
<tr>
<td>Roles</td>
<td>Group Arrangements</td>
</tr>
<tr>
<td>Materials</td>
<td>One Copy Per Group, One Copy Per Person</td>
</tr>
<tr>
<td></td>
<td>Question,</td>
</tr>
<tr>
<td></td>
<td>Other</td>
</tr>
<tr>
<td>Explain Task And Cooperative Goal Structure</td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Criteria For Success</td>
</tr>
<tr>
<td></td>
<td>Procedures</td>
</tr>
<tr>
<td></td>
<td>Individual Accountability</td>
</tr>
<tr>
<td></td>
<td>Interventional Cooperation</td>
</tr>
<tr>
<td></td>
<td>Report Behavior</td>
</tr>
<tr>
<td>Monitoring And Intervening</td>
<td></td>
</tr>
<tr>
<td>Observation Procedure</td>
<td>Formal</td>
</tr>
<tr>
<td>Observation By</td>
<td>Teacher</td>
</tr>
<tr>
<td>Intervention For Task Assistance</td>
<td></td>
</tr>
<tr>
<td>4. Interacting For Task Assistance</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Evaluating And Processing</td>
<td></td>
</tr>
<tr>
<td>Assessment Of Member Individual Learning</td>
<td></td>
</tr>
<tr>
<td>2. Assessment Of Group Productivity</td>
<td></td>
</tr>
<tr>
<td>3. Small Group Processing</td>
<td></td>
</tr>
<tr>
<td>4. Whole Class Processing</td>
<td></td>
</tr>
<tr>
<td>5. Charts And Graphs Used</td>
<td></td>
</tr>
<tr>
<td>6. Process Feedback</td>
<td>Each member</td>
</tr>
<tr>
<td>7. Goal Setting For Improvement</td>
<td></td>
</tr>
<tr>
<td>8. Celebration</td>
<td></td>
</tr>
<tr>
<td>9. Other</td>
<td></td>
</tr>
</tbody>
</table>
### Session Summary (Minute Paper)

**Reflect on the session**

1. Most interesting, valuable, useful thing you learned.
2. Things that helped you learn.
3. Question, comments, suggestions.
4. Pace: Too slow 1 2 3 4 5 Too fast
5. Relevance: Little 1 2 3 4 5 Lots
6. Instructional Format: Ugh 1 2 3 4 5 Ah

---

### Agnes Scott College - Workshop (5-11-15)

<table>
<thead>
<tr>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4 – Pace: Too slow</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Q5 – Relevance: Little</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Q6 – Format: Ugh</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Q4 – Pace: Too slow 1 . . . 5 Too fast (3.0)
Q5 – Relevance: Little 1 . . . 5 Lots (4.1)
Q6 – Format: Ugh 1 . . . 5 Ah (4.1)