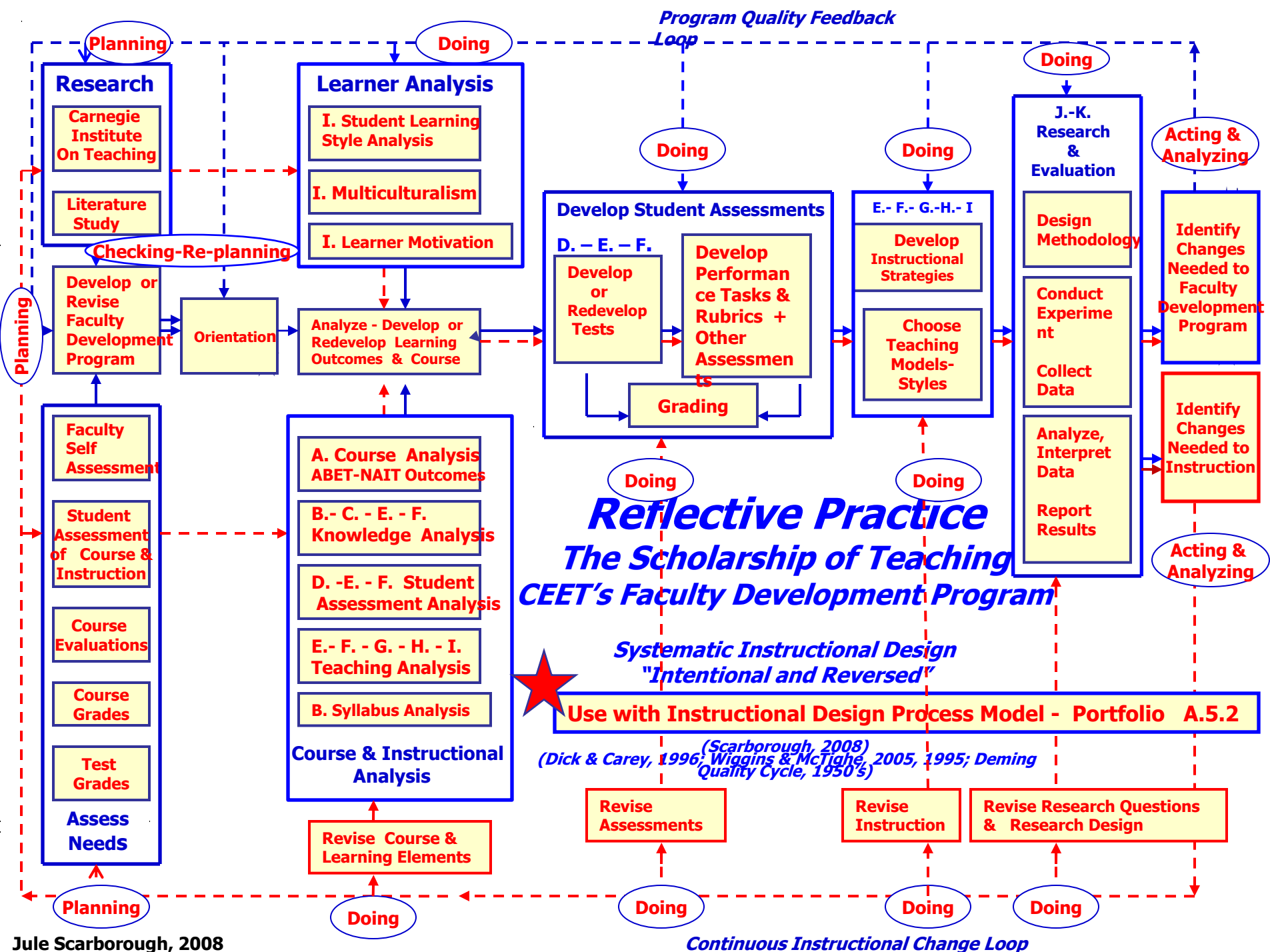


A photograph of a large, ornate, light-colored stone building with a prominent central tower and multiple spires, set against a blue sky with scattered white clouds. The building is surrounded by green lawns and various trees. In the foreground, there is a vibrant garden bed filled with yellow, pink, and white flowers.

# *Teaching*

## *Formal Cooperative Learning:* *An Essential Teaching Model*

*Northern Illinois University*





# Active Learning

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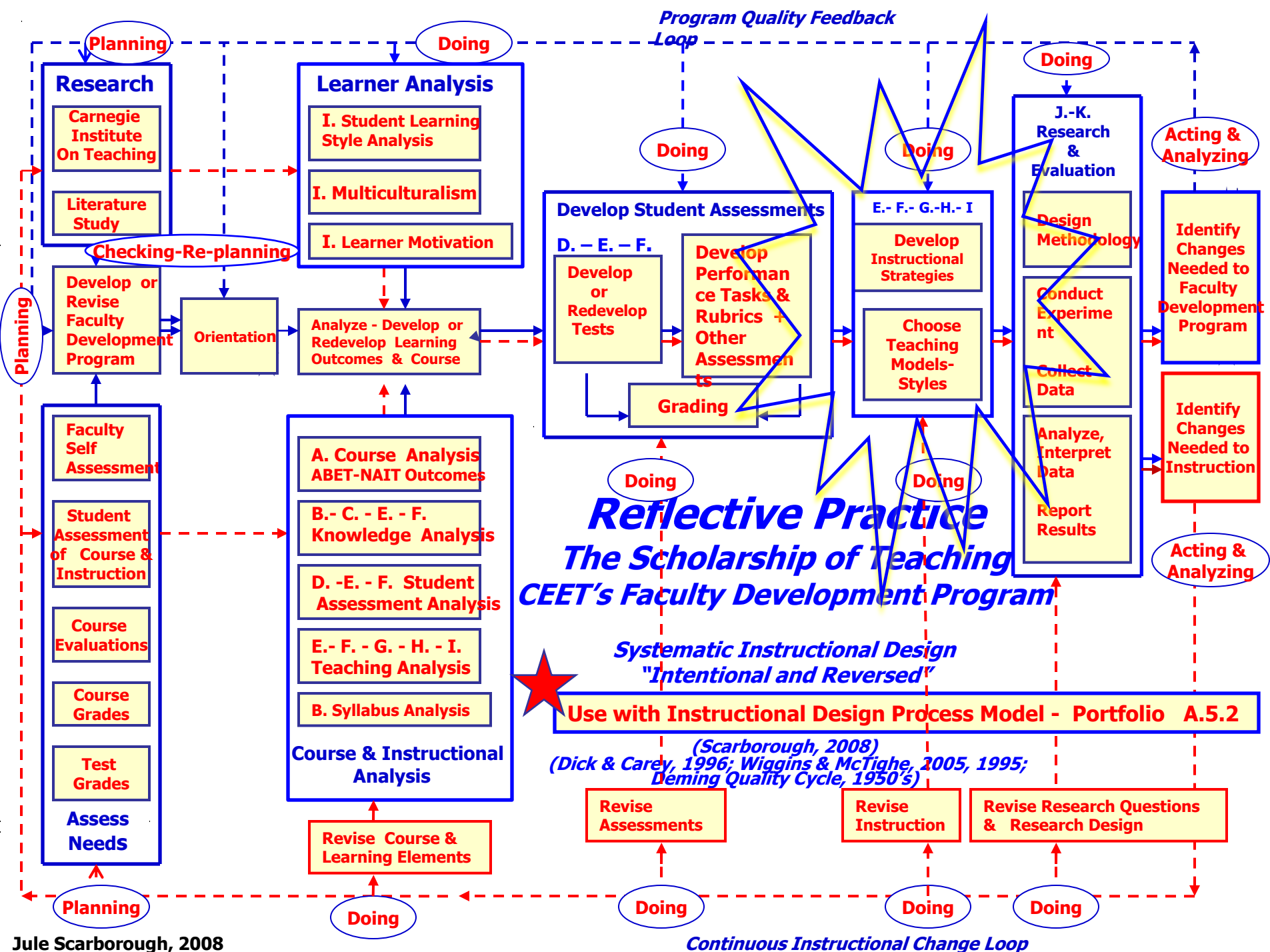
## Formal Cooperative Learning Chapter 2

David W. Johnson  
Roger T. Johnson  
Karl A. Smith

(Interaction Book Company, 1998)

This PowerPoint presentation was taken directly from the text by Johnson, Johnson, and Smith, 1998  
Jule Scarborough, 2006

**(for PowerPoint presentations, contact [julescarborough@niu.edu](mailto:julescarborough@niu.edu))**





# Formal Cooperative Learning Groups

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- Instructor's Role: Being "A Guide On The Side"
  - Make pre-instructional decisions
  - Explain the task and cooperative structure
  - Monitor and intervene
  - Evaluate and process



# Formal Cooperative Learning Groups

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## ■ Pre-instructional Decisions

Choose academic objectives and social skills objectives:

### Choose social skills by:

- Monitoring the learning groups
- Diagnosing the skills needed to solve problems students are having in working with each other
- Asking students to identify social skills that would improve their teamwork.
- Keeping a list of social skills you teach to every class.
- Analyzing what social skills are required to complete the assignment



# Formal Cooperative Learning Groups

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- **Deciding on the size of the group**
  - **The smaller the better:**
    - With the addition of each member, the resources to help the group succeed increase
    - The shorter the period of time available, the smaller the learning group should be
    - The smaller the group, the more difficult it is for students to hide

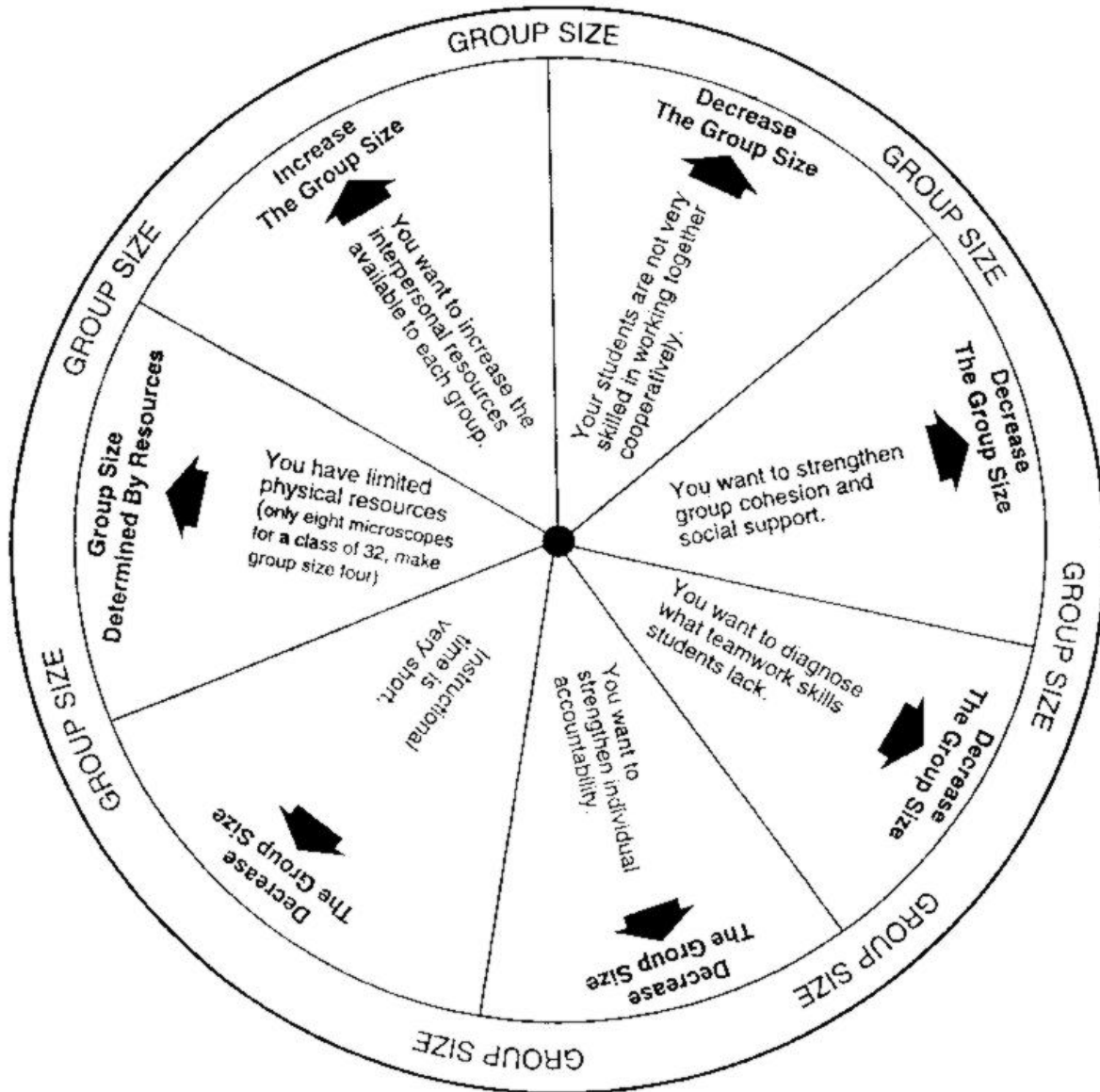


# Formal Cooperative Learning Groups

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- The larger the group, the more skillful group members must be
- The larger the group, the less the interaction among members
- The materials available or the specific nature of the task may dictate a group size
- The smaller the group, the easier it is to identify any difficulties students have in working together

# THE GROUP SIZE WHEEL





# Formal Cooperative Learning Groups

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- **Assigning students to groups**
  - **Advantages to heterogeneous groups**
    - Students are exposed to a variety of ideas, multiple perspectives, and different problem solving methods
    - Generate more cognitive disequilibrium
    - Engage in more elaborative thinking, give and receive more explanations, and engage in more frequent perspective-taking



# Formal Cooperative Learning Groups

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- **Methods of assigning students to groups**
  - Random assignment
  - Stratified random assignment-(note on tech KSAs)
  - Preferences
  - Instructor selected groups
  - Self-selected groups
  - Length of life groups
  - Combination



# Formal Cooperative Learning Groups

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- **Assigning roles to ensure interdependence**
  - Do not assign roles to let students get used to working together
  - Assign only simple roles to students
  - Add to the rotation a new role that is slightly more sophisticated, e.g. “checker for understanding”
  - Add formulating and fermenting roles that do not occur naturally in the group, e.g. “relater of K”



# Formal Cooperative Learning Groups

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## **Solving-preventing problems in working together**

- Reduce problems such as one or more members' making no contribution to the group or one member dominating the group
- Ensure that vital group skills are enacted in the group and that group members learn targeted skills
- Create role interdependence among group members by assigning members interconnected roles



# Formal Cooperative Learning Groups

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- **Arranging the room by:**
  - Using labels and signs to designate areas
  - Using colors to attract visual attention
  - Taping lines on the floor
  - Using mobiles and forms
  - Using lighting
  - Moving furniture



# Formal Cooperative Learning Groups

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- **Planning the instructional materials**
  - You create:
    - Materials interdependence
    - Information interdependence
    - Interdependence from outside enemies

## EXPLAINING THE TASK: FLOW CHART

1. Explain the assignment. The assignment needs to be a clear, measurable task.

2. Explain lesson objectives to ensure transfer and retention. Objectives may be stated as outcomes--*"At the end of this lesson you will be able to explain the causes of the French and Indian War."*

4. Explain the procedures students are to follow in completing the assignment.

3. Explain the concepts, principles, and strategies students need to use during the lesson and relate them to students' past experience and learning.

5. Require a visible product that each student signs. This keeps students on task and helps ensure they will behave responsibly.

6. Ask class members specific questions to check their understanding of the assignment.

7. Ask students to answer in pairs or triads the questions the lesson will focus on to (a) establish expectations about what the lesson will cover and (b) organize in advance what they know about the topic.



# Structuring Task & Cooperative Structure

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- **Explaining Criteria for Success**
  - Criterion-referenced or categorical judgments
    - Letter grades
    - Group improvement
    - Reaching a metric or standard



# Structuring Task & Cooperative Structure

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- **Structuring Positive Interdependence**
  - Positive goal interdependence
    - Structure “We”
    - Supplement with other interdependent elements, e.g. “reward”
    - Peer encouragement results



# Structuring Task & Cooperative Structure

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## ■ Structuring Individual Accountability

- Make each group member a stronger individual in his/her own right by:
  - Assessing performance of each member
  - Giving the results back
  - Comparing to criteria
  - Providing direct Feedback



# Structuring Task & Cooperative Structure

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## ■ Structuring Intergroup Cooperation

- Encourage members to find groups :
  - Who are not finished and help them understand how to complete the assignment successfully
  - Who are finished and compare answers and strategies



# Structuring Task & Cooperative Structure

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- **Specifying Desired Behaviors**
- When you use cooperative learning you must teach students the **small group** and **interpersonal skills** they need to work effectively with each other
  - You define the needed teamwork skills operationally by specifying the behaviors that are appropriate and **desirable** within learning groups
  - Be Specific, Start Small, Emphasize Over learning



# The Cooperative Lesson

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## ■ Cooperative Procedures

- Checking homework
- Engaging in discussions
- Taking notes
- Reading assigned material
- Drilling and reviewing
- Writing compositions
- Resolving intellectual conflicts
- Executing projects



# The Cooperative Lesson

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## ■ Checking Homework

- **Task:** Students bring completed home work and understand how to do it correctly
- **Cooperative:** Students meet in base group to ensure everyone understands how to complete the assignment correctly



# The Cooperative Lesson

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## ■ Checking Homework cont..

### ■ Procedure

- Students meet in groups
- One member acquires materials from instructor
- Group reviews assignment and concentrates on clarifying parts members did not understand—  
using roles such as “explainer” and “accuracy checker”
- Record groups’ progress on assignment
- Returns assignment to instructor



# The Cooperative Lesson

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- **Checking Homework cont..**

- **Expected criteria for success:**

All group members understand how to complete each part of the assignment correctly

- **Individual Accountability:**

Regular examinations and daily randomly selecting group members to explain how to solve randomly selected problems



# The Cooperative Lesson

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- **Turn To Your Neighbor Summaries**
  - **Task:** Students explain their answers and reasoning to a classmate
  - **Cooperative:** create a joint answer both agree on



# The Cooperative Lesson

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- **Turn To You Neighbor Summaries cont..**
  - **Procedure:**
    - Students formulate answer to a question
    - Students share answer with a neighbor
    - Listen to partner's explanation
    - Partners create new answer based on the additional information

**Formulate, Share, Listen, Create**



# The Cooperative Lesson

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- **Read And Explain Pairs**
- **Task:** Learn the material being read by establishing the meaning of each paragraph and integrating that meaning
  - **Cooperative:** Both members agree and explain meaning of material jointly



# The Cooperative Lesson

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- **Read And Explain Pairs**

- **Procedure:**

- Overview material
- Student A summarizes
- Student B checks accuracy
- Reverse roles
- Summarize and agree on meaning of material



# The Cooperative Lesson

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- **Read And Explain Pairs**
  - **Expected criterion for success:** Both members are able to explain the meaning of the material correctly.
  - **Instructors should systematically:**
    - Monitor each pair
    - Ensure individual accountability
    - Remind students about intergroup cooperation



# The Cooperative Lesson

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- **Reading Comprehension Triads**
  - **Task:**
    - Read material
    - Answer questions
    - Practice checking skills



# The Cooperative Lesson

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- **Reading Comprehension Triads**
  - **Cooperative:**
    - One set of answers from group, everyone agrees, everyone can explain each answer
    - +90%, each member receives bonus
    - Each member assigned a role



# The Cooperative Lesson

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- **Reading Comprehension Triads**

- **Expected criteria for success:**

- Everyone must be able to answer each question correctly



# The Cooperative Lesson

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- **Reading Comprehension Triads**
  - **Individual Accountability**
    - One member randomly chosen to explain group's answer
    - Individual testing
    - Each member required to explain group's answers to another group



# The Cooperative Lesson

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- **Reading Comprehension Triads**
  - **Expected behaviors:** Active participation, checking, encouraging, and elaboration by all members
  - **Intergroup cooperation:** Check procedures, answers, and strategies with another group



# The Cooperative Lesson

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- **Reading Comprehension Triads**
- **Also known as:**
  - Cooperative Writing and Editing Pairs
  - Cooperative Note-Taking Pairs



# The Cooperative Lesson

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- **Jigsaw Procedure**

- **Task:** Students to learn all assigned material
- **Cooperative Goal:** Each member to ensure that everyone in group has learned material



# The Cooperative Lesson

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## ■ Jigsaw Procedure

- Cooperative Groups: Distribute unique material to each member in group
- Preparation Pairs: Match pairs with identical members from other groups (i.e., part 1 group 1 with part 1 group 2)
  - Achieve expertness on material
  - Plan how to teach material to other groups



# The Cooperative Lesson

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- **Jigsaw Procedure**

- **Practice Pairs:** Students pair with a new member with same part, practice teaching material
- **Cooperative Groups:** Teach expertise to the other group members and learn material being taught. All parts of the material must be mastered



# The Cooperative Lesson

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- **Jigsaw Procedure**

- **Monitoring:** Instructors assist students with procedures
- **Evaluation:** Assess degree of mastery of all material with objective test taken individually. +90% receive bonus



# The Cooperative Lesson

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- **Drill-Review Pairs**

- **Task:** Correctly solve problems or engage in procedures
- **Cooperative:** Ensure both pair members understand the strategies and procedures to solve the problems correctly



# The Cooperative Lesson

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- **Drill-Review Pairs**

- Individual Accountability: Instructor randomly chooses one member to explain how to solve a randomly selected problem



# The Cooperative Lesson

---

## ■ Drill-Review Pairs

### ■ Procedure

- Person A explains the procedures and strategies required to solve problem
- Person B checks accuracy of solution and provides encouragement and coaching
- A and B reverse roles
- Each pair compare solutions with other pairs
- Procedure continues until all problems are completed



# The Cooperative Lesson

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## ■ Academic Controversies

- General format to structure Controversy
  - Topic with pro and con positions
  - Groups of 4, pro/con topic each pair
  - Assign each pair tasks:
    - Learn its position
    - Research
    - Prepare argument
    - Give presentation



# The Cooperative Lesson

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- **Joint Project**

- Task: Complete project
- Cooperative: create project groups, assign roles
- Criteria for success: A completed project that each group member can explain

- **Consider Performance Tasks and Rubrics**



# The Cooperative Lesson

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- **Joint Project**

- **Individual Accountability**

- Each group member responsible for proving involvement
    - Each member presents project to another member or performs
    - Students individually tested or performance scored using rubric



# The Cooperative Lesson

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- **Joint Skills**

- **Expected Social Skills:** Presenting ideas, eliciting ideas, and organizing work
- **Intergroup Cooperation:** Check procedures, information, and progress with other groups



# Monitoring And Intervening

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- **Monitoring Students' Behavior**

- **Four stages**

- Preparing for Observing
- Observing
- Intervening when necessary
- Students assess quality of their own participation

- **Use Rubrics**



# Monitoring And Intervening

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## ■ Guidelines

- Plan observing route through classroom
- Use formal observation sheet - rubric
- Do not obsess over behavior
- Detail notes with specific student actions
- Train and use student observers - rubric
- Allocate time to discuss with observers



# Monitoring And Intervening

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- **Providing Task Assistance**

- Cooperative learning groups provide instructors with a “window” into students’ minds

- **Intervening to Teach Social Skills**

- Cooperative learning groups provide instructors with a picture of students’ social skills



# Evaluating Learning and Processing Interaction

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- Provide Closure to the Lesson
- Assess the Quality and Quantity of Learning
- Process How Well the Group Functioned
  - Feed back
  - Reflection
  - Improvement Goals
  - Celebration