

Cooperative Learning:

Team Approach
Builds Self-Esteem
Improves Social Skills
Positive Race Relations
Active, Engaged Learning
Develops Higher Level Thinking
Resembles 'Real Life' Social & Work Environments

Quick Reference Guide of Kagan Structures

Adapted from: Cooperative Learning: Quick Reference Guide of Kagan Structures
http://www.melodyshaw.com/files/Cooperative_Learning_Kagan_Quick_Reference_Guide.pdf

Forming Teams (every 6 weeks)

1. Sort students by ability (test/quiz/pretest scores, last years grades in sequential classes, etc.)
2. Divide by four - High (blue), High Medium (green), Low Medium (yellow), Low (red)
3. Form teams keeping in mind gender, ethnic background, 2nd language, special needs, discipline, friends, etc.

Extras:

1 = 1 team of 5

2 = 2 teams of 3

3 – 1 team of 3

Heterogeneous groups best for academic and social gains.

A and **B** are shoulder partners

A's are face partners

B's are face partners

High A	High Medium A
Low Medium B	Low B

General Rule of Thumb: Teach for 10 minutes then use a structure.

4S Brainstorming (The team becomes a think tank as each student-each with a special role-contributes to the team’s ‘storm’ of ideas.)

1. Teacher assigns roles:
 - Speed Sergeant - ensures that teammates work fast, under time pressure, to come up with as many ideas as possible. Says things such as, “*We only have one minute left.*” “*Let’s hurry.*” “*Let’s get quicker with our responses.*”
 - Chief Support – makes sure all ideas are encouraged with no evaluation of ideas. Says things such as, “*All ideas are great!*” “*That’s an excellent idea.*” “*I really like that.*”
 - Sultan of Silly – encourages silly ideas. Says things such as, “*Let’s have a crazy idea!*” “*Can anyone think of something funny?*” It’s not the Sultan’s job to provide the silly ideas but rather to encourage the silly ideas. Having some silly ideas is very helpful in the flow of ideas, keeping the tone creative and in increasing the range of ideas.
 - Synergy Guru – encourages teammates to build on each others’ ideas, saying things like, “*Let’s build on that.*” “*Let’s combine these ideas.*” The Synergy Gurus is also the team secretary recording each idea on a separate slip of paper.
2. Teacher announces prompt
3. Students generate ideas
4. All ideas are recorded without evaluation (done by the Synergy Guru)

Agree-Disagree Line-ups (Good for valuing differences. A statement is announced and students take a stand on an imaginary line that stretches from one end of the classroom to the other.)

1. Teachers announces a statement, such as, “*I feel my opinion matters in this class*” “*Taxes should be raised*” etc.
2. The strongest ‘agree’ student stands at one end of the line while the strongest ‘disagree’ stands at the other. The remaining students stand between, closer to one end or the other.
3. Through Timed-Pair-Share, students listen carefully to those with a similar point of view (those standing next to them in the line.)
4. Fold the line so they listen to and understand a point of view different from their own.

Carousel Review (Provides an opportunity to generate ideas, check understanding, and raise unanswered questions. Teams rotate from one poster to the next at given intervals, adding ideas.)

1. Topics or questions are posted around the room.
2. Teams each stand by a chart.
3. Teams have a given amount of time to record their ideas.
4. Teams select a new recorder and rotate to the next chart.
5. Teams read and discuss what the previous team has written.
6. Teams record additional information before rotating.

Choral Practice (Give instructions then check for understanding.)

1. Give instructions
2. Students finish the teacher’s sentence, or repeat instructions, in unison to a teacher question, such as, “*The first step to solving this problem is ...*”

Choral Response (Effective for memory work, 100% simultaneous participation.)

At a cue from the teacher, all students say a response aloud, in unison. Often the response is the answer to a question, sometimes it is just a repeat of what the teacher say.

Circle-the-Sage (Person who knows the answer is in the middle with others surrounding them.)

1. A problem is given/question is asked by the teacher.
2. Teacher asks who knows the answer.
3. Students who know the answer stand in various parts of the room.
4. Others students circle the person who knows the answer (sage) and then the sage teaches the others.

Variations:

- **Opinion Sages:** Selected students are given different opinions/different readings on a topic. Students circle these Opinion Sages and discuss. When they return to their team, they first share the differing opinions and then make a Team Statement representing the team's opinion.

Consensus Seeking (Students talk over the alternatives seeking consensus. The guiding principle is to find an outcome that 'everyone can live with'. It may not be anyone's favorite outcome, but it is an outcome to which on one has a strong objection.)

Setup: Students need to be 'set' for consensus seeking with something like this: *"When we seek consensus, we are not trying to get our way. We are looking for a decision we can all get behind, even if it is not our first choice. Consensus is a challenge for the group: Can we find something everyone can support?"*

Corners (Students stand in a corner that best fits with their answer/personality, etc.)

1. Teacher poses a question with multiple responses, one response in each corner of the room.
2. Students pick their response and go stand in that corner.
3. Students talk with others in that corner about why they choose their particular answer by using Timed-Pair-Share or RoundRobin.
4. Each corner shares with the rest of the class.

Topics can be favorite pizza toppings, favorite subject in school, type of music, hobby, pets, sports, etc.

Create A Window (Students draw windows with 4 quadrants/categories and write or draw something about themselves)

1. Students use paper or whiteboards to draw a window with 4 quadrants
2. Categories can be something where they can talk about themselves or share information, such as, what they like to do, their family, how they learn best, potential career.
3. Students take turns sharing.

Fan-N-Pick (Students play a card game to respond to questions.)

Setup: questions are written on cards, one question per card.

1. Each team receives a set of question cards, about 8 cards per team.
2. Student #1 holds question cards in a fan and says, "Pick a card"
3. Student #2 picks a card, reads the question out loud and allows five seconds of Think Time
4. Student #3 answers the question
5. Student #4 paraphrases the answer that student #3 just gave
6. Group praises or coaches
7. Students switch roles, one person clockwise for each new round

Note: need role cards of:

- Fanner
- Answerer
- Reader
- Praiser/Coach

Find-the-Fiction / Find-The Fib / Guess-the-Fib (refer to *Teambuilding & Classbuilding* books for various structures) (Students write three statements and read them to teammates. Teammates try to find which of the three statements is the fiction.)

1. Teammates write three statements/problems/sentences with punctuation/history facts/etc.: two true and one false.
2. One student on each team stands (oxygen and glucose) and reads his/her statements to teammates.
3. Without consulting teammates, each student writes down his/her own best guess which statement is false.
4. Teammates RoundRobin (show guesses) and defend their 'best guess'. Teacher may or may not ask teams to attempt to reach consensus.
5. Teammates announce their guess(es), or write them down.
6. Standing student announces the false statement.
7. Students celebrate.
8. Repeat process with another teammate.

Variations:

- **Class Find-the-Fiction:** Find-the-Fiction may be played with the whole class. The teacher or a student may attempt to outwit the whole class.
- **Fact-or-Fiction:** (good for review) students state either a true or false statement and it is up to teammates to decide if the statement is either a fact or fiction.

Find Someone Who / People Hunt (see *Classbuilding* book for various structures) (Students circulate through the classroom forming and reforming pairs, trying to 'find someone who has a similarity with them or someone who knows an answer to a question/problem.)

Setup: Teacher prepares a worksheet or problems, or questions for students.

1. Students mix in the class, keeping a hand raised until they find a partner that is not a teammate.
2. In pairs, A asks B a question/problem, B responds. A records answer on answer sheet, expresses appreciation.
3. B checks and initials.
4. B ask A a question/problem. B records answer on answer sheet, expresses appreciation.
5. A checks and initials.
6. Partners shake hands, part, raise their hand and find another partner to repeat the process.
7. Students repeat steps 1-6 until their worksheets are complete.
8. When their worksheets are complete, students sit down; seated students may be approached by others as a resource.
9. In teams, students compare answers; if there is disagreement or uncertainty, they raise fours hands to ask a team question.

First to Five (Quick structure to check participants' level of support for a particular issue.)

1. Leader poses a statement.
2. Participants raise fingers from one to five to indicate their position.
 - 5 = I agree with this and could help lead
 - 4 = I agree with this can could provide support
 - 3 = I am not sure, but I am willing to trust the group opinion
 - 2 = I am not sure, I need more discussion
 - 1 = I need the alternative modified before I can support it
 - Fist = I cannot support this

Flashcard Game (Partners proceed through three rounds as they quiz each other with flashcards, mastering the content to win cards.)

Setup: Students each have their own set of flashcards.

1. In pairs, the Tutee gives his/her flashcards to the Tutor.
2. Round 1: Maximum Cues
 - The Tutor shows the question on the first card, reads the question, and shows and reads the answer written on the back of the card. The Tutor then turns the card back over and again reads the question on the front of the card asking the Tutee to answer from memory.
 - The Tutee answers. If correct, Tutee wins the card and receives praise. If wrong, the Tutor shows the Tutee the answer side and coaches. The card is then returned to stack to try later.
 - When the Tutee wins all cards, partners switch roles. When the new Tutee wins all her/his cards, partner advance to Round 2.
3. Round 2: Few Cues
 - The process is repeated, this time showing only the question. The answer is from memory.
4. Round 3: No Cues
 - The process is repeated, this time each question is asked without showing the the flashcards.

Gambits (Useful phrases that are needed for a team to work together effectively. They could include ways to ask for help, check for understanding, disagree politely, encourage effort, etc.)

Paraphrase Gambits:

In other words ...	So what you're saying is ...	All in all ...
So you mean that ...	If I understand your correctly ...	You said ...
To sum it up ...	Let me rephrase that ...	In a nutshell ...

Gambits for Disagreeing Politely:

That would be great except ...	Actually ...	Possible. Let's remember...
I don't see how ...	I'm afraid ...	I can see it that way. On the other hand ...
One problem is ...	That's good. Another thought is ...	

Positive Affirmation Gambits:

Wow! I really like that!	You Rock! Excellent!	Way to Go! Great Job!
That's Awesome!	Super Duper Job!	I wish I would have thought of that!

Draw-a-Gambit

1. Gambit cards are placed in a stack facedown in the center of the table.
2. Each time a participant adds to the discussion, he/she draws and uses a gambit card.

Drop-a-Gambit

1. An equal number of gambit cards are dealt to each participant.
2. Participants are asked to use their cards before the end of the discussion.
3. Participants give an appropriate gambit card to someone when they illustrate that behavior. For example, a teammate who asks a question gets an "Ask a question" card with appropriate gambits.
4. Once participants have used up their cards, they can use those that have dropped in front of them.

Give-One, Get-One (Good for sharing ideas or applications that relate to the topic.)

Setup: give students a sheet of paper with two columns – Give-One and Get-One

1. Students individually brainstorm to fill up their Give-One column. When done, students stand.
2. Students mix and find others. They Give-One idea/application to their partner and Get-One in return. Students write their partners idea/application in the Get-One column.
3. Students move on to find new partners.

Guided Discussion (A modification of a flashcard game that can be used to structure dialogue. The leader creates a deck of question cards on the given topic for each team. The deck of cards is used to equalize participation and increase individual accountability in the discussion.)

1. Each team is provided with a deck of discussion cards.
2. The first person draws a card and reads the question aloud and answers it.
3. The deck is passed to the second person and the process continues.

Inside-Outside Circles (Students rotate in concentric circles to face new partners for sharing, solving, quizzing.)

1. Put 2 groups together (inside and outside circles)
2. Questions or problems on flash cards and give to inside circle students
3. Inside asks while outside responds, inside listens, praises, or coaches (teacher can also ask the question and indicates whether inside or outside responds.)
4. Switch roles - outside asks while inside responds, outside listens, praises or coaches
5. Switch cards and inside or outside rotates (can also rotate two ahead, three ahead, etc.)

Instant Star (Students are randomly called to stand and share with their teammates.)

1. Teacher asks a question.
2. Teacher calls for think time.
3. Teacher randomly calls a number.
4. The student on each team with that number stands and shares her/his thought or answer with teammates.
5. For high consensus questions, teammates praise or coach, if needed. For low consensus question, teammates praise the thinking that went into the answer.

Jigsaw (Each student finds a part of the answer and then shares with their group. A topic is broken up into parts or multiple problems are presented or a topic needs to be researched. Students take a role and complete their part, share their findings with others who had the same role and then report back to their original groups. A problem is posed and each student takes a part of the problem to research or solve and then teaches their original group.)

1. Teacher presents a problem to be solved, a word to be spelled, a topic to be researched, parts of a chapter to be read, etc.
2. Each student in each group has a specific responsibility, i.e., read pages 1-4, solve problem #3, etc.
3. Each student performs their role individually.
4. When each student has an answer they get together with the other students in each group who had similar roles, (Expert groups) and share their answers.
5. Students in each Expert group share their ideas (RallyRobin)
6. Students then return to their initial groups and share their answers.

Variations:

- **Jigsaw Problem Solving:** Students work in teams of four, and each student receives one of the four clues to solve the team problem. Everyone must share the information on their clue card because the team can only reach a solution by connecting the information from all clues.

Journal Reflections (students write their thoughts, questions and what they learned.) Journal Reflections is a simple structure to help process academic learning and promote self-awareness. Students may record emotional reactions to anything which occurs in school: successes, failures, and relationships.

Journey Wall (A collaborative display of artifacts that forms a time line of a change, implantation, decision making process, or another major event. Its purpose is to provide opportunity to reflect.)

Logic Lineups (Teammembers each role place a different object and use deductive thinking to sequence themselves.)

Set up: each team receives four item cards.

1. Teammates stand shoulder-to-shoulder, each holding an item card.
2. The teacher reads the first clue to problem one.
3. The student mentioned in the clue describes how he/she will line up based on the clue. He/she checks with teammates for agreement. If students disagree, they discuss why. Note: if more than one teammate is mentioned in a clue, they each describe their reasoning and check with teammates for agreement
4. The student physically moves to his/her place in the team line up.
5. After the teacher reads each clue, students repeat steps 3 and 4.
6. When all clues have been read and acted on, the teacher calls on one team to describe their order and share their logic.
7. The team selected responds.
8. The teacher either congratulates the team or proves correction opportunity. Other teams listen and either celebrate or correct their positions
9. The process is repeated for the next problem.

Mix-Pair-Share (Class mixes, teacher calls ‘pair’, students find new partner to discuss.)

1. Students mix around room
2. Teacher calls “Freeze”, “Pair”, or stops music, students pair up with the person closest to them and do a high five. Those that haven’t found a partner raise their hand.
3. Teacher asks a question / gives a problem / gives vocabulary word / etc. and gives think time
4. Students share with their partner using timed-pair-share (open-ended), rally robin (brainstorm), rally coach (solving a problem)

Number Group Presentation (Presenting team projects.)

1. One person in each group is chosen as the presenter of the project.
2. All other students number off by the number of project groups in the class (6 groups, 7 groups, etc.)
3. All 1’s go to group/project 1, all 2’s go to group/project 2, etc.
4. Presenters present their project to the students visiting their group.
5. Teacher calls ‘time’ and student rotate to the next group.
6. When done, students return to their group and discuss what they saw and heard.

Numbered Heads Together (Teammates work together to ensure all members understand; one is randomly selected to be held accountable.)

1. Teacher prepares questions, or teams prepare questions then teacher collects, and gives to another group
2. Students number off
3. Teacher poses a problem/asks a question and gives think time
4. Students think and privately write their answers (paper, answer boards)
5. Students lift up from their chairs to put their heads together, show answers, and discuss and teach
6. Students sit down when everyone knows the answer or has something to share and erase their boards.
7. Teacher calls a number. The student with that number from each team answer simultaneously, using various means such as choral response, answerboard share, response cards, finger response, write on whiteboard, etc. Important that sharing boards or notes from step 6 are erased so students can recall from memory for this step (getting called on)

Variations:

- **Paired Heads Together.** Students are in shoulder partner pairs. After teacher asks a question, pairs huddle to improve the answers they have each written. Teacher then calls for either A or B to share their best answer with their face partner. In other words, students work in pairs within their team group of 4.
- **Traveling Heads Together.** When the teacher calls a number, the students with that number on each team stand, then ‘travel’ to a new team to share their answers. Seated students may beckon a standing student to join their team.
- **Stir-the-Class.** Teams stand around the outside of the class with spaces between teams. Teammates stand shoulder-to-shoulder. The teacher poses a question then students write their own answers on an answer board or slip of paper. Teammates huddle to reach consensus, then unhuddle when done. The teacher selects a number and tells students with that number how many teams to rotate forward to share their answers.

One Stray (One teammate strays from his/her team to a new team to share or gather information.)

1. A number is randomly called and that student from each team stands up, others remain seated and raise their hands.
2. Teacher calls “Stray”.
3. Standing students stray to a team that has their hands up and is welcomed by the new team.
4. Teams lower their hands when a new member joins them.
5. Students work in their new teams to share or gather information.

Optional: students return to their original team and share what they learned when they strayed.

Random Teams: three rounds of One Stray can be used to form random teams. A different number is called each round and students may not join a team where a teammate is seated.

Pairs Check (Pairs reunite to check work.)

1. Partner A solves the first problem/question
2. Partner B watches and listens, checks, coaches and praises
3. Switch roles for another problem/question.
4. Partner B solves another problem/question
5. Partner A watches and listens, checks, coaches and praises
6. Both pairs (all four students in the group) reunite and compare their answers. If they disagree and are unable to figure why, four hands go up. Otherwise, the team celebrates.

Pairs Compare (Pairs generate a list of possible ideas or answers. Pairs pair and compare their answers with another pair. Finally pairs work as a team to create additional answers or ideas.)

1. Teacher provides a question that has multiple possible responses and provides think time.
2. RallyTable: Shoulder partners Rallytable answers. They 'keep it a secret' from the other pair.
3. Teacher calls time.
4. Pairs Compare: Pairs pair to RoundRobin their answers. For each answer, the face partner in the other pair adds their answer to that pair's list, or checks it off if they already had it.
5. Team Challenge: As a team, students generate new answers, taking turns within pairs recording answers on their pair lists.

Partners (Similar to Jigsaw but in pairs. Student partners work together to master some content and then to present it to another pair. Elaborate version: time for student to do independent research in preparation for their presentation. Simple version: for example, just reading and interpreting a poem. Partners lends itself to a wide range of content: Different sides of a controversial issue, different experiments to conduct, different problems to solve, different inventions to describe, different characters to analyze, etc.)

1. Partners are formed within teams. Often the high and low achievers and the two middle achievers.
2. Class divides: partners sit together. Topic 1 partners are all on one side of the class; Topic 2 partners on the other side. (Movement is necessary so partners can consult with same-topic partners in Step 5.)
3. Topics are assigned and/or materials distributed. Topic may be different sides of debate. Materials may consist of reading and a worksheet to stimulate higher-level thinking.
4. Students master topics. Students may master materials given, or may do independent research.
5. Partners consult with same-topic partners. Partners consult with like-topic partners sitting next to them, checking for correctness, and completeness.
6. Partners prepare to present a tutor. Partners analyze critical features and decide on a teaching strategy. Students are encouraged to make visuals and other teaching aids. Partners must evaluate what is important to teach and how to determine if learning has occurred in their teammates.
7. Teams reunite; partners present. Partners work as a team, dividing the labor as they teach the other pairs in their team. For Partners Debate, each side presents their arguments on the issue.
8. Partners tutor. After presenting the skill or information, partners check for understanding and tutor their teammates.
9. Individual assessment. An individual quiz, essay, or a structure (Showdown) assesses individual mastery.
10. Team processing. Teammates reflect back over the process: How did we do as teachers? How did we do as learners? How could we do better next time? What social skills did we use? Which social skills or techniques should we use more next time?

Placemat Consensus (A graphic organizer for teammates to express, read, and synthesize their ideas. The goal is not for one idea to dominate but for the ideas to be combined to create an original solution that everyone can live with.)

1. Each team draws a placemat on a large piece of paper
2. Teacher provides team with a topic teammates all respond simultaneously in their individual space writing as many items as they can in the time allotted.
3. Teammate 1 announces one item he/she has written.
4. Teammates discuss the item.
5. If there is consensus that the item is important, Teammate 1 records his/her best synthesis of the team's ideas in the center team space, seeking help with wording if necessary.
6. The process is repeated for one or more rounds using RoundRobin; each teammate, in turn, suggests an idea and records the team consensus.

Poems for Two Voices (Partners create and present a poem they recite.)

1. Teacher assigns each pair a poem topic.
2. Partners work together to write their poem.
3. Partners label each line of their poem, A, B, or AB, representing who will read each line.
4. Pairs rehearse their poems.
5. Pairs recite their poems to another pair or to the class.

Quiet Signal (“Give me a high five.” Or simply putting your hand in the air. Students should respond with a ‘high five’ or putting their hand up in the air, and get other students attention to be quiet and to signal others to do the same.)

Quiz-Quiz-Trade (Students quiz a partner, get quizzed by a partner, and then trade cards to repeat the process with a new partner.)

1. teacher, or students, generate question/problem cards
2. Stand up, hand up, pair up. Exchange greetings.
3. Partner A quizzes
4. Partner B answers
5. Partner A coaches or praises
6. Switch roles
7. Partners trade cards

RallyRobin (pairs speaking) (back and forth speaking - in pairs, students alternate generating oral responses)

1. Teacher poses a problem to which there are multiple possible responses or solutions
2. In pairs, students take turns stating responses or solutions.

Rally Table (pairs writing) (back and forth writing - in pairs, students take turns generating written responses, solving problems, or making a contribution to the team project.)

1. Students take turns passing a paper and pencil (answer board) or a team project, each writing one answer or making a contribution.

Response Mode Discussion (Participants use a variety of Response Mode chips to stretch their range of responses during a discussion. Response Mode chips regulate the type of Responses participants make during a discussion and provide a concrete vehicle for processing group dynamics.)

Setup: participants make up, or are provided with, response mode chips, such as, paraphrase, encourage participation, summarize, add an idea, praise an idea, ask a question, combine ideas, give an idea, summarize progress, keep group on task, ensure equal input, as for clarification, etc.)

1. Respond Mode chips are distributed to teammates.
2. The leader provides discussion topic and time frame.
3. As teammates discuss the topic, they place the response mode chip in the center of the table.
4. Following the discussion participants analyze their responses, discussing questions such as:
5. Which response mode was the most and least comfortable?
6. Which response mode did we use most? Which response mode did we use least?"
7. Which response was new for you? Do you feel it was important?
8. How did Response Mode chips impact the discussion?

Round Robin (team speaking) (go around the table speaking - in teams, students take turns responding orally, solving a problem, breaking a problem down step-by-step)

1. Teacher assigns a topic or question with multiple possible answers
2. In teams, students respond orally, each in turn taking about the same amount of time. (30 seconds each)

Variations:

- **All Write Round Robin:** each student records each other student's answer on their own paper.
- **All Write Consensus:** after reaching consensus, each student records each other student's answer on their own paper.
- **Think-Write-RoundRobin:** students think about their response, then independently write it down before the RoundRobin
- **Single Round Robin:** the team does just one round of sharing, each teammate getting one turn.
- **Continuous Round Robin:** each student adds to discussion/list. Goes around many times.
- **Timed Round Robin:** each student shares in turn for a specified time.

Sage & Scribe

1. Shoulder partners work together for about 5 minutes.
2. Partner A tells Partner B what to do. B does what A says.
3. Switch roles.

Send-A-Problem (Jigsaw puzzle sent around the room.)

1. Each team member makes up a review question/problem and writes it down on paper or a card.
2. The author of each question/problem asks it of his or her teammates. If there is a total consensus, the author writes the answer on the back of the card.. If not, the question is revised so that it produces consensus.
3. Teams pass their stack of review question to another team.
4. Teams respond. Student 1 reads the card and if the group has a consensus then they turn the card over to check the answer. If the group has a different answer than the answer on the card then the group writes their answer on the back as an alternative answer

Variation:

- **Trade-A-Problem:** teams simply trade a problem with another team. If there is going to be discussion, Trade-A-Problem is better than Send-A-Problem because teams won't have to wait as teams finish at different rates. Send-A-Problem is better if the review involves many high consensus, quick answers, because the problems can be rotated again and again to new teams.

Showdown (When the Showdown Captain calls, "Showdown" teammates all display their own answers. Teammates either celebrate or tutor, and then celebrate.)

1. Teams each have a set of question cards stacked facedown in the center of the table.
2. Teacher selects one student on each team to be the Showdown Captain for the first round.
3. The Showdown Captain draws the top card, reads the question, and provides think time.
4. Working alone, all students, including the Showdown Captain, write their answers and turn their papers/answer boards upside down when done.
5. When finished, teammates signal they're ready (thumbs up)
6. Showdown Captain calls, "Showdown"
7. Teammates show and discuss their answers.
8. Showdown Captain leads the checking.
9. If correct, the team celebrates; if not, teammates tutor, then celebrate.
10. The person on the left of the Showdown Captain becomes the Showdown Captain for the next round.

Modifications: rather than cards, students can play Showdown with oral questions from the teacher, or from a question on a handout or questions displayed by a projector.

Show Me! (An assessment structure where students simply respond to a teacher's questions.)

1. Teacher asks a question or gives a problem and gives think time.
2. Teachers says "Show Me!"
3. Students hold up their Answerboards or do a TakeOff-TouchDown.

Variations:

- **Team Show Me!** Team works on the problem using various structures and then presents the answer.

Simultaneous Round Table (In teams, students each write a response on their own piece of paper, Students then pass their papers clockwise so each teammate can add to prior responses.)

1. Each team of 4 needs 4 papers and 4 pencils
2. Teacher assigns a topic or question/problem and provides think time
3. All 4 students respond, simultaneously writing, drawing, or building something with manipulatives.
4. Teachers signals that time is up, or students place thumbs up when done
5. Students pass papers, or projects, one person clockwise
6. Students continue, adding to what was already completed.

Variations:

- **Pass-N-Praise:** students are instructed not to release their paper until they receive a praise that makes them feel good.

Spin-N-Think (A spinner determines roles as students play a game to think about and discuss content.)

Setup: each team receives thinking questions, a Spin-N-Think gameboard, and a game marker.

1. Teacher selects a “Spin Captain” for each team
2. Spin Captain moves marker to “Who Asks the Question?” and spins. That student reads a question.
3. Spin Captain moves marker to “Think Time”, directs teammates to think about their answers and silently counts a slow five seconds, showing the count on his or her fingers.
4. Spin Captain moves marker to “Who Answers the Question?” and spins. That student answers.
5. Spin Captain moves the marker to “Think Time” and silently counts out five seconds as students think about the answer that was given.
6. Spin Captain moves the marker to “Who Paraphrases & Praises?” and spins. The selected student paraphrases and praises the answer provided.
7. Spin Captain moves the marker to “Think Time” and silently counts out five seconds as students think about if they have anything to add.
8. Spin Captain moves the marker to “Discuss” and teammates discuss the question.
9. Spin Captain passes the game board clockwise one person for the next round.

Stir-the-Class (A version of Numbered Heads Together.)

1. Teams stand around the outside of the class, shoulder to shoulder, with spaces between teams.
2. Students number off
3. Teacher poses a problem and gives think time.
4. Students privately write their answers on answer boards or slips of paper.
5. Teammates huddle, sharing answers and coaching as needed, unhuddle when they reach consensus.
6. Teacher selects a number and tells students with that number how many teams to rotate forward.
7. The ambassador shares their team's process or thoughts and answer with the new team and the new team shares theirs.
8. Teams celebrate and repeat the process.

Sum-the-Ranks (Provides everyone with equal input into the decision. Can be used after JotThoughts to judge the merit of ideas. Identifies the popularity of choices.)

1. Participants are provided with, or have created, a list of alternatives.
2. Each team member ranks the items from the top choice the highest number to the last choice.
3. In teams, rankings are summed for each alternative.
4. Representatives from each team post their sums. Team scores are totaled and the highest scoring item identified.

TakeOff-TouchDown

1. Students stand (TakeOff) when they agree with a question.
2. Students sit (touchdown) when they don't agree with a question.

Team-Pair-Solo (The team pools their knowledge and skills to try a new procedure. After success as a team, they break into pairs and the pair completes the procedure. And finally, after much support and modeling, students are ready to perform the skill independently.)

1. Team work together to solve problem.
2. Pairs work together to solve problem.
3. Individuals work alone to solve problem.

Team Presentations (Each member makes a timed presentation to the class)

Team Projects

1. Assign goal or project guidelines and assign roles for each member.
2. Share process by sending a student to "Roam-the-Room".
3. Share presentations by Number Group Presentation, Carousel Feedback, Team Presentation.

Teams Post

1. Each team is designated a place at the whiteboard.
2. After teams generate ideas, a team representative writes or draws the teams' ideas on the whiteboard.
3. Students can see what other teams are doing.

Team Stand-N-Share (Teams stand to share their answers with the class)

1. All students stand near their teammates.
2. Teacher calls on a standing student
3. Selected student states on idea from the team list
4. The student in each team holding their team list either adds the item to the list, or if it is already listed, checks it off.
5. Students pass their team lists clockwise to the next team member
6. Teams sit when all their items are shared. While seated they add each new item as it is stated, using Round Table. When all teams are seated then the activity is completed.

Team Word Webbing / Mind Mapping (Word webs, mind maps, semantic maps, clustering, chains, spider maps, and concept maps are a powerful set of tools in concept development and exchange.)

1. Teacher announces topic and each student is given a different color pen or marker and the team is given one large poster sized piece of paper where they write the topic in the center in a rectangle. (i.e. Family)
2. RoundTable on the core concepts (i.e., Pets, Kids, Mom, Dad, Vacation) in ovals.
3. Add to the word web with additional rounds or RoundTable or a free-for-all.

Think-Pair-Share (A problem is posed, students think alone about the problem for a specified amount of time, then form pairs to discuss the question and share with the class.)

1. The teacher poses a problem.
2. Students think alone for a specified time.
3. Pairs work together to discuss or solve the problem.
4. Students are called on to share what their pair came up with with the class.

Three Stray (Three teammates stray from his/her team to a new team to share or gather information.)

1. Three numbers are randomly called and those students from each team stand up.
2. Standing students stray to new teams.
3. Teams lower their hands when a new member joins them.
4. Students work in their new teams to share or gather information.
5. One person stays behind to answer questions and share their team's progress.

Timed-Pair-Share (Open ended questions.)

1. teacher announces a topic and states how long each students will have to share (divide time equally)
2. Teacher provides think time
3. In pairs, partner A shares their answer, partner B listens.
4. Partner B responds with a positive gambit (“One thing I learned listening to you was ...”, “I enjoyed listening to you because ...”, “Your most interesting idea was ...”)
5. Students switch roles. Teacher asks another question/problem and gives think time
6. Partner B shares their answer, partner A listens
7. Partner A responds with a positive gambit (“One thing I learned listening to you was ...”, “I enjoyed listening to you because ...”, “Your most interesting idea was ...”)

Turn Toss (Students toss an object to another teammate and then that person answers.)

1. Students form groups with one student getting an object to toss.
2. A question is asked and the student with the object tosses it to another student who answers the question.

Whip (A simple structure for giving an answer/sharing project plans etc. where the teacher calls on one person from each group to present.)

1. Teams prepare answer or statement and elect a representative.
2. Representative stands to give answer or teacher calls on a student in each group.

7 Key Components of Cooperative Learning

All must be in place for Cooperative Learning to be fully effective

1. Teams
 - 4 students per team.
 - Change team members every 6 weeks.
 - 4 levels of students (High, High-Medium, Low-Medium, Low) in each team.
2. Classbuilding – 1 time per week
 - Students stand up.
 - Students move around.
 - Content as needed.
 - Everyone is included.
3. Teambuilding – 2 times per week
 - Fun.
 - No content.
 - Easy enough so that even the lowest performing student can be successful.
4. Management
 - Quiet signal (3-5 seconds for class to get quiet).
 - A & B partners (A & B are shoulder partners, As are face partners, Bs are face partners).
 - Mixed ability teams.
 - Model the structures to the class.
 - Say the name of the structure with the key steps (posters are helpful).
 - Music - 60 bpm -solo work (reading, journal, solving problems) / 120 bpm - non-academic activities
 - Sponge activities for students who finish early.
 - Make the activity timer visual.
 - Who goes first in pairs – spinner, taller, longer hair, shiny shoes, birthday closest to today, etc.
 - Materials – one person from each group distribute and collect materials
5. Social Skills
 - What do you want them to do?
 - What do you want them to say?
 - Listening, praising, turn-taking, tolerance, etc.
6. Principles – PIES
 - Positive Interdependence
 - Is win-win promoted? (Does a gain for one student benefit another?)
 - Students feel that they are on the same side?
 - Does the task require working together?
 - Success requires the contribution of everyone.
 - Students feel that they need each other.
 - Individual Accountability
 - Each student must perform in front of someone else.
 - Students cannot hide.
 - Equal Participation
 - Participation should be approximately equal, based on *Time* or *Turns*
 - All students have the opportunity to participate.
 - Students feel they have equal status.
 - Simultaneous Interaction
 - What percent of students are overtly (visually and/or audibly) engaged at one time.
 - Students feel engaged.
7. Structured Activity

Quick Research – Skills Employers Want

What Do Employers Really Want? Top Skills and Values Employers Seek from Job-Seekers

- Communications Skills (listening, verbal, written).
- Analytical/Research Skills.
- Computer/Technical Literacy.
- Flexibility/Adaptability/Managing Multiple Priorities.
- Interpersonal Abilities.
- Leadership/Management Skills.
- Multicultural Sensitivity/Awareness.
- Planning/Organizing.
- Problem-Solving/Reasoning/Creativity.
- Teamwork.

Hansen, Randall S., Hansen, Katharine. “What Do Employers Really Want? Top Skills and Values Employers Seek from Job-Seekers”. *QuintCareers.com*. Web.

http://www.quintcareers.com/job_skills_values.html

What Employers Seek

- Communication and Interpersonal Skills
- Leadership Skills
- Organizing/Managing/Coordinating
- Relevant Experience
- Problem-Solving/Critical Thinking Skills
- “Technology-Savvy” Workers
- Flexibility/Adaptability to Change
- Realistic Expectations
- Creativity/Innovation
- Intelligence
- Enthusiasm/High Energy Level
- Maturity
- Budget Management
- Public Relations
- Cultural Awareness
- Lifelong Learners

University of Wisconsin River Falls Career Services. *What Employers Seek*. Web

http://www2.uwrf.edu/career/assets/documents/handouts/what_employers_seek.PDF

Top Ten Skills Employers Want...

- Communication Skills (Verbal and Written)
- Honesty / Integrity
- Interpersonal Skills (relate well to others)
- Strong Work Ethic
- Teamwork Skills (work well with others)
- Analytical Skills
- Motivation / Initiative
- Flexibility / Adaptability
- Computer Skills
- Detail Oriented

National Association of Colleges and Employers: Job Outlook. *Top Ten Skills Employers Want*. 2005-Student Version. Web.

<http://bapp.cba.ksu.edu/skills.html>

Quick Research – Skills Employers Want

12 Essentials for Success

- Working in a diverse environment
- Managing time and priorities
- Acquiring knowledge
- Thinking critically
- Communicating effectively
- Solving problems
- Contributing to a team
- Navigating across boundaries
- Developing professional competencies
- Embracing change

Michigan State University, Career Services Network. *12 Essentials for Success*. Web.
<http://careernetwork.msu.edu/pdf/Competencies.pdf>

Skills Most Sought After by Employers

- Communications Skills (listening, verbal, written).
- Analytical/Research Skills.
- Computer/Technical Literacy.
- Flexibility/Adaptability/Managing Multiple Priorities.
- Interpersonal Abilities.
- Leadership/Management Skills.
- Multicultural Sensitivity/Awareness.
- Planning/Organizing.
- Problem Solving/Reasoning/Creativity.
- Teamwork.

Upper Rio Grande Workforce Development Board. *What Skills do Employers Want*. Web.
www.ysletadelsurpueblo.org/shared_document.sstg?id=112

Top 20 Qualities and Skills Employers Want

1. Communication skills - verbal and written
2. Honesty and integrity
3. Teamwork Skills - works well with others
4. Interpersonal Skills - relates well to others
5. Motivation and initiative
6. Strong Work Ethic
7. Analytical Skills
8. Flexibility and Adaptability
9. Computer Skills
10. Organizational Skills
11. Detail-Oriented
12. Leadership Skills
13. Self-Confidence
14. Friendly and Outgoing Personality
15. Tactfulness
16. Well-Mannered and Polite
17. GPA - 3.0 or better
18. Creativity
19. Entrepreneurial Skills and Risk-Taker
20. Sense of Humor

HOSA (Health Occupations Students of America) *What Employers Want in New Hires* March 2003. Web
http://www.hosa.org/emag/articles/news_march03_pg3.pdf

Quick Research – Benefits of Cooperative Learning

Cooperative Learning Classroom Research

- “Cooperative learning produces greater student achievement than traditional learning methodologies.” (Slavin 1984)
- Many businesses and industries work in teams or are moving towards this concept.

Dahley, Andrew M. “Cooperative Learning Classroom Research” Web.

http://alumni.media.mit.edu/~andyd/mindset/design/clc_rsch.html

44 Benefits of Collaborative Learning

1. Develops higher level thinking skills
3. Increases student retention
4. Builds self esteem in students
5. Enhances student satisfaction with the learning experience
6. Promotes a positive attitude toward the subject matter
7. Develops oral communication skills
8. Develops social interaction skills
9. Promotes positive race relations
10. Creates an environment of active, involved, exploratory learning
11. Uses a team approach to problem solving
16. Stimulates critical thinking develops interpersonal relationships
28. Students stay on task more and are less disruptive
36. Classroom resembles real life social and employment situations

Panitz, Ted. 44 Benefits of Collaborative Learning The Global Development Research Center. Web.

<http://www.gdrc.org/kmgmt/c-learn/44.html>

What are the Benefits of Cooperative and Collaborative Learning?

- Benefits from small-group learning in a collaborative environment include:
- Celebration of diversity.
- Acknowledgment of individual differences
- Interpersonal development.
- Actively involving students in learning.
- More opportunities for personal feedback.

Thirteen. Concept to Classroom. What are the Benefits of Cooperative and Collaborative Learning? Web.

http://www.thirteen.org/edonline/concept2class/coopcollab/index_sub3.html

Benefits of Active and Cooperative Learning

- Provides opportunities for higher order thinking as opposed to passive listening.
- Promotes greater student-faculty and student-student interaction.
- Increases student retention and limits anxiety. Students are not overloaded with information. Students actually get time to think about, to talk about, and process information.
- Permits opportunities to connect the content to real life.
- Builds self-esteem in students.
- Provides for improvement of social interaction skills, greater acceptance of others, and a greater sense of “community” in the class - in part by addressing learning style differences.
- Encourages alternative forms of assessment.
- Promotes higher levels of achievement, greater depth of thought and improved attendance.
- Encourages innovation in both teaching and student involvement.

Middle Tennessee State University. Benefits of Active and Cooperative Learning. Web.

http://www.mtsu.edu/ltanditc/docs/Benefits_of_Active_Learning.doc

Quick Research – Benefits of Cooperative Learning

Cooperative Learning: Why Use Cooperative Learning?

- Promotes student learning and academic achievement
- Increases student retention
- Enhances student satisfaction with their learning experience
- Helps students develop skills in oral communication
- Develops students' social skills
- Promotes student self-esteem
- Helps to promote positive race relations

Kennesaw State University. Cooperative Learning: Why Use Cooperative Learning? Web
<http://edtech.kennesaw.edu/intech/cooperativelarning.htm>

Other Cooperative Learning Research:

Benefits of Cooperative Learning In Relation to Student Motivation

Dr.Theodore Panitz

<http://home.capecod.net/~tpanitz/tedsarticles/motivation.htm>

Chapter 12: Effectively Managing the Cooperative Classroom

John Shindler. *Transformative Classroom Management*. 2009 Web

<http://www.calstatela.edu/faculty/jshindl/cm/Chapter12CooperativeLearning-final.htm>

Cooperative Learning in Technology Education

John C. Flowers and John M. Ruiz

[http://teched.vt.edu/vctte/VCTTEMonographs/VCTTEMono13\(CoopLearn\).html](http://teched.vt.edu/vctte/VCTTEMonographs/VCTTEMono13(CoopLearn).html)

Many of the skills that employers seek in their employees are also the benefits that students receive from cooperative learning. Cooperative learning helps to develop necessary employability skills.

Problems & Solutions

From SAM Club – Trista Sanders and Lindsay Meeker

Problem #1: Implementing Cooperative Learning takes time away from curriculum that I am feeling pressure to cover.

Solutions:

- Better time organization – a few minutes after school each day
- Start small to get comfortable & proficient with a few structures that you know well.
- Hit the basics more with CL – trim supplemental content
- Have students cover more outside of class to free up in-class time for strategies
- Give individual grades for group members based on performance
- Change structures frequently to avoid boredom
- Less busy work
- Streamline – less teacher talk
- Focus on strategies you can tie to curriculum
- Share ideas and lessons with same core or level teachers
- Make team and class builders your bellringers or closers
- Work structures into existing curriculum and/or skill sets
- Use in review situations

Problem #2: When students sit in teams, they become noisy and it is difficult to keep them on task.

Solutions:

- More team building – it IS effective
- Use a graded activity immediately following the CL activity
- Teacher must monitor the class
- Use timer and limit activity to 10-15 minutes
- Give an outcome / clear objective
- Model and coach the structure
- Change structures frequently
- Give individual grades
- Make new teams (H, HM, LM, L) every 4-6 weeks
- Give precise instructions and clear modeling for students
- Regulate talking with the structure (i.e. Talking Chips)
- Assign roles to each student
- Use teacher's physical presence to control behavior
- Give a participation grade (5,4,3,2,1)
- Visit each group frequently
- Make activity task-oriented
- Give a couple minutes of talk time as a reward for being on-task during the activity
- Give less time to complete the task
- Break task into small goals with less time for each milestone
- Have sponge/anchor activities ready for when students finish (and train students on how and when to use them)

Problems & Solutions

From SAM Club – Trista Sanders and Lindsay Meeker

Problem #3: Students become bored with the structures.

Solutions:

- Use immediate accountability for the learning during a structure
- Give a quiz after a structure
- Use more class/team builders – they boost morale
- Teacher monitoring
- Change structures frequently
- Switch it up – add a new structure periodically to teacher repertoire
- Shorten the length of time for the structure (10-15 minutes per structure)
- Add in brain breaks (1-2 minutes; kinesthetic)
- Use technology
- Eliminate the “cutesy” names
- Let students choose from alternatives to determine structure
- Share new ideas with department, team, grade level
- Give incentives
- Rearrange teams (remember H, HM, LM, L) every 4-6 weeks
- Teacher attitude is reflected in student attitude
- Have students brainstorm why they think it’s boring (or post a +/- chart for student comments)
- Vary instructional methods each period
- Differentiate and have like-ability (face) partners work together on level-appropriate tasks/activities

Problem #4: I don’t have time to plan for Cooperative Learning on top of all the other things we have going on right now...skill sets, Quality Tools...It’s all just too much!

Solutions:

- Divide and conquer – share lessons, ideas, assessments with department, grade level
- Make a habit of putting a copy of new activity in mailboxes of colleagues who could use it.
- Use the Kagan cheat sheet – keep it on your desk
- Start small and build up – one strategy at a time.
- Make use of coaches and collaborate with others who use CL
- Make students do some of the work (i.e. cards for Q-Q-T)
- Double-dip: Most initiatives work in harmony – use Kagan to teach skill sets or use with Quality Tools, for example.
- Give students a say in picking the structure and developing some materials needed for prep.
- Solicit new ideas from colleagues
- Be spontaneous with activities – many require NO PREP!
- Better time management – set aside “Kagan Time”
- Use the Training Manual to relearn structures you’ve forgotten

Problems & Solutions

From SAM Club – Trista Sanders and Lindsay Meeker

Problem #5: Upper level students are not challenged when I use Cooperative Learning, and they often find the activities babyish.

Solutions:

- Vary teaching methods and frequency of use
- Have students reflect upon learning experience
- Limit activities to 10-15 minutes each
- Change behavioral conventions
- Use higher-level thinking strategies more than recall
- Differentiate and use some face-partnering at appropriate levels for the higher/lower groups
- Allow student to select structures among teacher choices
- Get ideas from Honors/AP teachers who use CL successfully
- Make sure your CONTENT is challenging – structures are content-free
- Use technology
- Get students to generate their own questions for activities
- Offer sponge/anchor activities for enrichment
- Be positive – teacher attitude is reflected in student attitude
- Use temporary islands as necessary for ill-behaved students
- Teach upper-level students to coach/assist

Teacher Attitude – positive attitude in teacher is more likely to beget positive attitude from students.

Classroom Management

1. Use brain breaks
2. Use class and team builders consistently
3. Change teams every 4-6 weeks and group students appropriately (H, HM, LM, L)
4. Limit the time of each activity to 10-15 minutes
5. Make instructions and expectations clear and model the structure
6. Use teacher vicinity and team visits to keep kids on task
7. Have a clear objective
8. Vary your instructional methods as well as the structure selected for CL activities

Planning Time













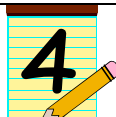

1. SHARE ideas that work and ask for help from colleagues
2. Start with a few structures; learn them well; then add on
3. Double-dip – structures can be used with skill sets, quality tools, recall, higher order thinking, etc.

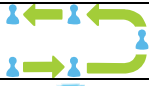










High School Level Work

1. Hold students accountable for learning intended to take place during CL activity
2. Don't use Kagan terms, if that's what turns you or your students off
3. Use challenging materials and content, higher-level thinking structures, etc. for upper-level kids
4. Add enrichment opportunities like sponge/anchor activities in diverse classrooms

Cooperative Learning Cheat Sheet

A Quick Reference to Structures and Potential Uses

Structure	Brief Description	Potential Uses	Visual
Carousel Feedback	Rotation viewing of team projects/ feedback form	Midway point or finished project sharing; different parts of essays	
Fan-N-Pick	Question cards drawn, answered, coached, praised (each person rotates job)	Thinking questions; review of readings; teambuilding	
Find Someone Who	Any worksheet-search for others who know answer = study guide to take home	Content review; reading check; classbuilding	
Find the Fiction	2 true, 1 false statement- teammates find false (can also use A, B, C, D options and find the true)	Finding main ideas, correct/incorrect equations/proofs, labeling maps; teambuilding	
Inside-Outside Circle	2 concentric circles – teacher asks all or students have question cards – guided rotation – can build in social skills	Social skills; classbuilding; concept review; debate; vocabulary; checking homework	
Numbered Heads Together	Game on computer is option; teacher asks question; all answer on boards; all confer; come up with group answer (can give problem w/ same steps different answer here)	Grammar; math problems; any concrete answers; steps to solving; teambuilding; ANY time in lesson-could be one question long!	
One (or more) Stray	Send one (or more, if structured) students to visit another team and represent original team's ideas – share	Any information to share; lists; visuals; storyboards; brainstorming; projects; supporting details	
Quiz-Quiz-Trade	With question cards, students ask ?s, trade cards, new partner, ask new ?s, continue	Content review; any info with finite answers; rules; safety; main events in book, war, historic event	
Rally Variations	Rally=back and forth		
Rally Robin	Speak in pairs back and forth	Verbal lists Lecture breaks/reviews	
Rally Table	Write on one paper back and forth (in pairs)	Written lists	
Simultaneous Rally Table	Write on both papers – generates two written lists (must have 2 topics)	Written lists; pro/con on topic	
Rally Coach	Student write/coach every other answer; teach coaching (make coaches stand); can do with worksheet or out of book	Any book work with right/wrong answers; any worksheet with right/wrong answers	
Round Robin Variations	Robin=talking		
All Write R. Robin	All write on own paper; go around team generating verbal list for all to write	Brainstorming or lists to keep; good to use before a "one stray"	
Continuous R. Robin	Each student adds to discussion/list around team many times	Idea generation; support for argument; anything with infinite or many options	

Single R. Robin	Each student adds to discussion/list ONCE around	Opinion questions; review of lecture points	
Timed R. Robin	Each student adds to discussion/list ONCE around, with time limit	Opinion questions when under time constraint; lecture breaks/reviews	
Round Table Variations	Table=writing		
Continuous R. Table	Each adds own idea to one list - around many times	Single list brainstorm to use later; math equations that follow a certain rule; parts of speech; conjugated verbs	
R. Table Consensus	Each suggests an idea out loud, but only writes after others ok idea – rotate list around table	List or brainstorm that requires accuracy or agreement	
Simultaneous R. Table	Four different lists; each adds own idea to each list; can go around once or many times	Efficient brainstorming on multiple topics or types of math/grammar problems	
Single R. Table	Each adds one idea to list (once around)	Illustration of concept; problem or solution; revision ideas	
Showdown	Captain role rotates; each answers question on board; showdown to discuss answers – can provide correct answers somewhere	Review of either short or longer, but right/wrong answers; in lieu of worksheet	
Spend-A-Buck	Give equal “bucks” to each to spend as a vote – can use none, some, or all on choice(s)	Team decision-making; ethics questions; team project	
Stand-N-Share	Selected member shares one idea from list – others either ✓ or add to own lists	Reporting out from previously generated lists or completed worksheets	
StandUp-HandUp-PairUp	A way to mix and match students randomly – each raises hand and high-five's another	Can mix up group for structures like rally robin, timed pair share, etc.	
Talking Chips	Each has “chip” – when one speaks, s/he lays down “chip” and can't speak again until all others have	Predictions, interpretations, conclusion, solutions, discussion when each person's ideas are essential; teambuilder, can limit by # of rounds	
Timed Pair Share	Teacher poses question and gives time limit for “A” and time limit for “B” to answer	Brief discussions; examples of concepts; lecture break and review	