Where lectures and teacher talk are strictly visual and auditory, structures are experiential. Structures open up a world of possibilities for multimodal actions and interactions. With fun and active learning adventures, we are more likely to reach more students with different intelligences and learning styles; we lose far fewer students to boredom and disengagement.

What Is a Structure?

The previous chapter offered a three-part definition of a cooperative learning structure. We will quickly review the definition and extend it with a metaphor.

A Cooperative Learning Structure

① Organizes Classroom Instruction. A structure is an instructional strategy that describes how the teachers and students interact with the curriculum.

② Is Content-free and Repeatable. Structures are used to explore the curriculum, but are not tied to any specific curriculum. They can be used repeatedly with different curriculum, creating new learning experiences.

③ Implements the Basic Principles of Cooperative Learning (PIES). Cooperative Learning Structures have PIES built in. The inclusion of PIES is what makes cooperative learning truly effective. We will cover PIES in great detail in *Chapter 12: Basic Principles (PIES)*.
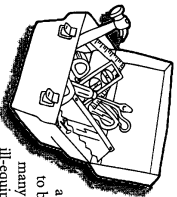
Structures are Teaching Tools

Structures are tools in a teacher's toolbox. Without many tools, a builder is ill-equipped to build a house. Without many structures, a teacher is ill-equipped to construct a wide range of cooperative learning experiences for students. Just like each tool has an intended use, each structure is good for building some types of learning, but no single structure works for all types of learners and learning objectives. We wouldn't use a hammer to cut wood. A hammer pounds nails. A saw cuts wood. Jot Thoughts is used to generate ideas. Sum-the-Ranks is used to make team decisions. When we have a range of structures at our disposal, we have many tools

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in our teaching toolbox. Structures empower us to build a variety of learning experiences and to do so efficiently, selecting the best tool for the learning objective at hand.

Structures: A New, Better Way to Teach and Learn

According to our analogy, any instructional strategy is really a tool. However, structures are qualitatively different from the tools many teachers currently have and use. Dare I say, better?

Teachers A, B, and C

To distinguish structures form other instructional strategies, let's take three imaginary teachers. Each of them has a different style of teaching:
- **Teacher A: Traditional Instruction**
- **Teacher B: Group Work**
- **Teacher C: Structures**

We'll see how these three teaching styles play out for two of the most common classroom practices: 1) Question and Answer, and 2) Guided Practice.

Question and Answer

As teachers, we ask questions of our class to check for understanding, to create active engagement, and to review content. Depending on our teaching style, we handle questions differently.

Teacher A: Traditional Instruction. Teacher A asks a question of the class, allows those who want to answer to raise their hands, calls on one of the volunteers to answer, then responds to the answer.

Teacher B: Group Work. Instead of calling on one student, Teacher B often says something like, "Talk it over in your groups" or "Turn to a partner and discuss it."

Teacher C: Structures. Teacher C chooses from a variety of student interaction structures. For example, Teacher C may use RallyRobin to have partners take turns generating an oral

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list. Or Teacher C may use Numbered Heads Together for review, to have students share and improve their answers with teammates, then have individuals from teams share with the class.

Guided Practice

The three styles also play out differently during practice time. After modeling a skill, we want students to practice that skill by applying it to different problems, often on a worksheet of some type.

Teacher A: Traditional Instruction. Teacher A passes out individual worksheets and has students practice the skill alone, turning in their papers afterwards for feedback. During worksheet work, the teacher admonishes the students: "Keep your eyes on your own paper."

Eyes on your own paper
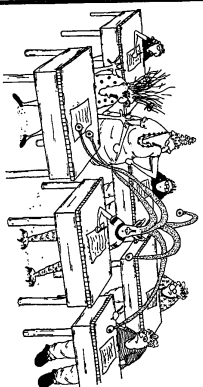
McPherson, John. *For Whom the Late Bell Tolls.* © Kagan Publishing

Teacher B: Group Work. Teacher B has the students in small groups or pairs and tells them to "Help each other," or "Solve the problems as a group."

Teacher C: Structures. Teacher C has many structures to choose from. For example, Teacher C may use Sage-N-Scribe. One student, the Sage, states how to solve the problem, step-by-step, while the other student, the Scribe, records the steps and the answer. The Scribe coaches the Sage if necessary and offers praise. Students rotate roles following each problem so the Scribe becomes the Sage.

> *"Competition has been shown to be useful up to a certain point and no further, but cooperation, which is the thing we must strive for today, begins where competition leaves off."*
> —Franklin D. Roosevelt

What's the Big Difference?

There is a dramatic difference in how students experience school and in their educational outcomes. The students in the cooperative learning class (Teacher C) learn more (especially the low-achievers who have the most to learn), are more actively engaged, enjoy school more, and develop a wide range of personal and social skills. See *Chapter 3* for a review of the research, and See *Chapter 4* for theoretical explanations of why cooperative learning consistently outperforms other instructional strategies on virtually all measures of school success. Let's see the difference on a number of important variables.

Traditional Instruction—Teacher A

Achievement. Traditional instruction results in the achievement gap. Minority students achieve at lower rates than their majority peers.

Social Skills. Students who leave Teacher A's classroom have not worked with others on a regular basis, so they have not had the opportunity to develop their social skills, interpersonal intelligence or character virtues such as caring, understanding, turn taking, leadership, and respect. Students may actually learn to hope for the failure of others. If a student misses a question during Q&A time or does poorly on a worksheet, it gives the other students an opportunity to shine by comparison.

Required Participation. If a teacher calls only on volunteers to answer the questions, predictably there will emerge a group of students who almost always raise their hands and another subset of the class who seldom or never do. Teacher A ends up calling most on those who least need the practice and least on those who most need the practice! Volunteer participation in a heterogeneous group almost always results in very unequal participation.

Engagement. Traditional Q&A is terribly inefficient for promoting engagement. Only one student is active at a time. We'll elaborate on this later when we describe how structures optimize engagement.

Group Work—Teacher B

Group work is easy. Basically, the teacher tells students to work together, using statements like, "Talk it over with your partner," "Discuss it in your groups," or "Solve it as a team." Group work takes no special planning or materials, so is easy to implement and therefore quite attractive. But beware of group work!

Achievement. Group work, unlike cooperative learning, does not consistently produce academic gains for all students. If we're not careful, students in group work may learn even less than in Teacher A's class. Often during group work, a few students in each group do most or even all of the talking or problem solving. Those left out learn little or even nothing!

Social Skills. Students are working in small teams, which is the ideal breeding ground for social skills. However, without structure, students are often not ready to work effectively in teams. Since there is nothing to equalize participation among group mates, resentments often build up. The high achiever feels, "I had to do it all." The low achiever feels, "My ideas weren't included; I wasn't respected."

Required Participation. Unfortunately, what typically happens during group work is that one or a few students take over while others do little. Teachers using group work complain about the "hogs and logs." Some students become "free riders" allowing their more skilled or more motivated teammates to do most or even all of the work. We have all experienced the group project that was really a project completed by some of the members of the group. All of us have been in groups where one or two people did most or all of the talking. Even in a pair, one person may do all the talking, or take over the worksheet and do most or all the problems. The weaker students, those who most need the practice, do the least. Group work does not ensure individual accountability. In Teacher A's class, all students are held accountable for doing their own worksheet work. In Teacher B's class, students may hide behind the work of group mates and choose not to participate at all.

Engagement. There is much more engagement in Group Work than in Traditional Instruction. When teacher A asks a question of the class, at any moment only one student is responding. When Teacher B asks a question for groups to discuss, at any moment one person in each group is responding: However, thanks to the "hogs and logs" problem, engagement by all is not assured.

Teacher A, B, C Comparison

	Teacher A Traditional Instruction	Teacher B Group Work	Teacher C Structures
Achievement Gains	Not By All	Not By All	By All
Social Skills	By None	Not By All	By All
Required Participation	Q&A: Not By All	Not By All	By All
	Guided Practice: Yes	Not By All	By All
Active Engagement	Q&A: Few	By Some	By All
	Guided Practice: By All	By Some	By All

Structures—Teacher C

Achievement. Students achieve more academically. The gains are greatest for those who traditionally score the lowest, closing the achievement disparity.

Social Skills. The structures describe students' interaction pattern. In RallyTable, students take turns writing ideas. In Sage-N-Scribe, students take turns solving problems. Students acquire the social skills prescribed by the structure: turn-taking, patient waiting, helping, and praising. Lack of structure invites chaos. Structure promotes order.

Required Participation. Every student has a part to play in every structure. Participation by all is "built into" each structure. Hiding is not an option.

Engagement. In every team or pair, all students are actively engaged.