# Cooperative Learning Structures

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How we structure the interaction among students impacts dramatically on achievement and acquisition of social skills. Simply telling students to "Turn and Talk" increases the achievement gap; having students do a "Timed Pair Share" equalises participation and reduces the gap.

To a remarkable extent, the situations we are in determine our behaviour. Applying this principle, we can structure the interaction of students in ways that improve a range of educational outcomes. How we structure the interaction among students determines how much they will achieve, the size of the achievement gap, how much they will like school and learning, and how often they engage in positive v. disruptive behaviours.

## Situations Determine Behaviour

There is a great deal of psychological research demonstrating that situations determine behaviour. Two classic experiments demonstrated that given specific situational variables, good people will perform terrible things—administer lethal shocks, invent and carry out sadistic punishments. The power of situational variables to control behaviour also can work for good. Given the right situations in a classroom, we can promote cooperation, and achievement. The easiest way to grasp the power of situations to determine behaviour is a simple thought experiment.

## Thought Experiment

Situation 1: Imagine a classroom of students. Imagine further the teacher stands before the class with a basket of valuable coins. The teacher announces to the class he/she will start a 3-minute timer and then toss all the coins out into the classroom. The teacher then says any

coin a student collects during the 3 minutes is theirs to keep. The teacher then tosses the coins out into the classroom.

What would the behaviour of the students look like? Almost certainly there would be some grabbing and even pushing in the scramble to compete for the coins. Students would feel themselves to be in competition.

Situation 2: Now imagine the same teacher, the same students, the same basket of coins, and the same 3-minute timer, but with one change. The teacher announces that at the end of the 3 minutes, all the coins that are placed back in the basket will be divided equally among the students for them to keep.

What would the behaviour of the students look like now? Almost certainly the students would gather coins and run to put them in the basket. Quite probably students would cooperate to maximise their reward. They might help each other scoop up the coins or hand their coins to others to put in the basket. Students would feel themselves on the same side, part of a cooperative group.

The same students, with the same amount of rewards and the same time limit, would be either very competitive or very cooperative, depending on the situation. How we structure the situations in which we place our students, to a large extent, determines their behaviour. In our work applying situationism to the classroom, we have identified three basic types of situations: Traditional, Group Work, and Kagan Structures. Which one of these situations we choose to implement in our classroom has a dramatically different impact on student interactions and learning.

**Three Basic Classroom Structures, A, B, & C**

A. Traditional. I have now given workshops and keynotes in 37 countries. In each country I have visited a number of classrooms. In all countries I have visited, the most common way of structuring the interaction among students is what I call the traditional approach. The traditional approach takes two basic forms, one for responding to teacher questions and the other for worksheet practice.

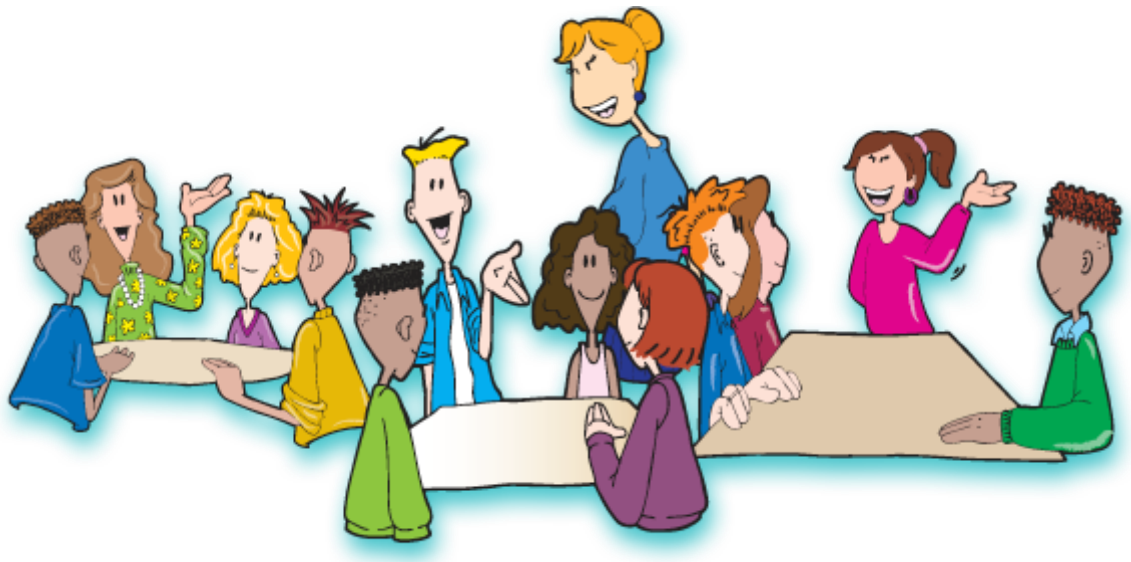
For responding to teacher questions, the traditional teacher asks a question of the class and those students who want to respond, raise their hands to be called upon. This traditional Hand Raising Q-A structure results in the high achievers doing most or even all of the responding while the lowest achievers engage in mind-wandering. The result: an increased achievement gap.

For worksheet practice, following direct instruction the traditional teacher often has students work alone on worksheets. This, too, results in an increased achievement gap because the high achievers get good practice while the low achievers may practise wrong, mind-wander, or avoid a failure experience by not performing, rationalising by saying something like, "This worksheet is dumb."

B. Group Work. The second way of structuring interaction in a classroom is what I call group work. To have students respond to teacher questions, the teacher may have students interact in pairs, saying, "Turn and Talk." Or the teacher might have students interact in small groups, saying, "Discuss it in your groups." These ways of structuring interaction also widen the achievement gap because the higher achievers in each pair or group do most or even all the talking while the lower achievers may engage in mind-wandering.

For worksheet practise, the group work teacher tells students to do a project or worksheet as a group. "Work together, cooperate." This, too, widens the achievement gap as the high achievers take over. Almost everyone has been part of a group in which some did the work and others took a free ride.

C. Kagan Structures. For years we have worked to carefully design ways of structuring interaction so there is equal and frequent participation of all students. We call these simple instructional strategies Kagan Structures. For example, for oral responding, rather than a Turn and Talk, the teacher might have students do a RallyRobin or a Timed Pair Share. In a RallyRobin, students in pairs take turns speaking, generating an oral list. For example, young students might take turns naming colours; older students might take turns naming prime numbers. In a Timed Pair Share, each student has a predetermined amount of time to share while his/her partner listens. For example, young students might spend 30 seconds each describing what they think will happen next in the story; older students might spend a minute each sharing their opinion on which of the ten amendments in the Bill of Rights they think is most important and why.



There are many advantages of RallyRobin and Timed Pair Share compared to the traditional Hand Raising Q-A: In the same amount of time the traditional teacher can ask and respond to the answers of two or three students each giving one response, with a RallyRobin every student in the class has given a number of responses. With Hand Raising Q-A, it would take a full class period to have every student in the class share their ideas for a minute because the teacher talks twice for every time a student talks, first asking the question, and then responding to the answer. For every student to share for a minute using Timed Pair Share, it takes just a little over two minutes. In 2 minutes, Timed Pair Share produces as much oral language production per student as the traditional teacher produces in an hour! When we use Timed Pair Share or RallyRobin, at any moment, half the class is verbalising their ideas and every student is called upon to respond. No one can choose to hide. The participation is very unequal in the traditional and group work approaches; we call most on those who least need the practise and call least on those who most need the practise. In contrast, the Kagan Structures are carefully designed to equalise participation, either by equal time or equal number of turns.

**What We Know**

Situations impact behaviour, for good or bad.

Different instructional strategies create different situations.

Traditional classroom situations (calling on those students who raise their hands; having students work alone on worksheets) increase the achievement gap.

Kagan Structures are alternative situations that increase equality of and amount student engagement, improving achievement, as well as social skills and behaviours.

**Sage-N-Scribe**

For worksheet work, rather than working alone, the teacher might have students do a Sage-N-Scribe. In Sage-N-Scribe, students work in pairs, with one worksheet. For the first problem, the Sage tells the Scribe how to solve the problem and the Scribe records the work. The Scribe provides praise, and, if necessary, coaching. Following each problem, students switch roles. Some of the many advantages of Sage-N-Scribe are that students get peer support, encouragement, and coaching. They receive immediate feedback and correction, if necessary. Students can't do a whole worksheet practising wrong. In the traditional classroom, they get feedback only after the teacher has had time to correct the papers. An additional advantage is the amount of feedback: With Sage-N-Scribe, students get feedback following every problem, not following every worksheet.

Timed Pair Share, RallyRobin, and Sage-N-Scribe are but three of over 200 Kagan Structures we have created. Different structures have different functions. We train teachers in structures for interpersonal functions (Classbuilding, Teambuilding, Social Skills,

Communication Skills, and Decision Making) and academic functions (Knowledge Building, Procedural Learning, Processing Information, Thinking Skills, and Presenting Information).

## Results Using Kagan Structures

There are numerous controlled research studies documenting positive results of using Kagan Structures. The average effect size on achievement using Kagan Structures is .92, indicating a percentile gain of 31.9. A student scoring at the 50th percentile in a traditional classroom would be scoring at the 82nd percentile had the teacher used Kagan Structures! Research indicates implementing Kagan Structures results in dramatic reductions in discipline referrals and corresponding increases in positive behaviours such as helping, turning in lost items, preventing fights, and picking up litter without being asked. Why? When Kagan Structures are used regularly in classrooms, cooperation becomes the norm in the school. Just like the students who work together to gather the coins, students experiencing Kagan Structures feel themselves to be on the same side.

## Conclusion

Applied situationism gives us leverage. With relatively little change in how we structure the interaction among students, we have a huge positive impact on a number of key educational outcomes, including academic achievement, social development, character development, race relations, and reduction of disruptive behaviours.

## Further Reading

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