

# Cooperative Games as a Strategy for Developing Positive Peer Relationships

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Good educational games are not only fun but have been shown in various research studies to promote positive relationships and increase social skills, interest in a specific topic, motivation, learning and (in many cases) higher order thinking.

## Educational Game Tournaments

Students can work in pairs or small groups to play an educational game with every other pair in the class over a week or so. Pairs/groups stay the same for the duration of a specific tournament. Over time, all students can have an opportunity to play in a partnership with every other student in the class. A tournament approach can:

- Help to foster positive relationships
- Provide students with an excellent opportunity to practise social skills (*eg conflict management skills, respectful disagreeing, negotiation*)
- Provide opportunities to practise resilience skills (*eg goal setting, optimistic thinking*)
- Provide a context in which pro-social values such as cooperation and acceptance of differences can be applied
- Contribute to a positive pro-social classroom culture
- Develop higher order thinking skills (in many, but not all, games)
- Consolidate content knowledge

## Preparation

Before each tournament ensure that students know how to play the game and are familiar with the content in the game. It can be helpful to play the game as a whole class to remind them of the strategies which are most effective in doing well in the game.

Consider providing a strategic planning session before each tournament begins and encourage pairs to:-

- Help each other to play the game well
- Work out good strategies to do well in the game
- Identify what 'blockers' might get in the way of their achievement of their pair goal (which is to either win or have a good score)

## Briefing

Then have a brief discussion of the social skills, resilience skills and pro-social values that make a partnership effective and help the tournament to be enjoyable. This shouldn't be where students have their *first* contact with these skills and values. They should be initially taught in the classroom before the tournament begins. This is a practice opportunity, not an initial learning opportunity. Skills and steps are described in detail in either:

The social skills, resilience skills and pro-social values which help students do well in this kind of tournament are:

- Staying optimistic
- Playing fairly
- Being a good winner
- Being a good loser
- Positive Tracking (ie commenting on what's going well or on the good play of your partner or the other pair)
- Negotiating
- Respectful disagreeing
- Sharing the work and the resources
- Taking turns
- Working together on a shared goal (to play well and to try to improve your strategy as a pair)
- Accepting differences
- Treating other team members and opposition players with respect
- Not using putdowns or blaming others. Stress that a lot of putdowns are verbal but a lot are also nonverbal eg gestures, tone of voice, rolling eyes etc-see *Dirty Tricks* for more ideas)

Use some of these briefing questions:

1. What is the main purpose of playing in a tournament of educational games?  
*To enjoy ourselves with people we are connected to; To improve in our own level of skill; To have fun and work well together*
2. What makes a good game?  
*Everyone has a good time; People play by the rules; No one puts anyone else down; People feel satisfied with the way they manage themselves eg they control their temper, treat each other respectfully, and cooperate*
3. How can we all play well?  
*Do our best; Stay optimistic; Cooperate; Think of the rights and feelings of others; Don't put others down; Don't blame others if things go wrong but accept that some degree of stress accompanies games; Accept that we all make mistakes and all have different things we are good at ; Make sure we help each other to improve our skills as a pair; Use good strategies; Be positive with each other and about our pair's performance; Be good winners and good losers)*
4. What are some attitudes or behaviours which make the game less fun for everyone?  
*(Getting too hung up on winning instead of having fun. You may prefer to win but it is not the most important part of it; Not keeping angry feelings under control; Making putdown remarks to others if they don't play well. This discourages them and makes it less likely that they will want be involved next time)*

### **Tracking the Outcomes of the Games**

Nominate 2 or 3 students to organise which pair play which other pairs at a given time, to keep records of the outcomes of the games for each pair and to place the results onto a class master sheet. In a class of 24, each pair would play each other pair 11 times.

### **Debriefing**

At the end of the tournament provide some feedback on what you observed about their levels of cooperation (eg *'the cooperation during the tournament that I observed was fantastic and it was great to see so many of you being positive and supportive towards each other'*). Feedback can also be privately given to individual students (*'Dean, I think you had the best session today that you've had for a long time. I didn't hear one putdown remark and you kept your temper in check throughout'*)

Debrief as a class using some of these questions:

- What strategies did you use that you found to be effective in doing well in this game and why?
- What changes would you make next time you played this game and why?
- In what ways did pairs need to cooperate in this game?
- How did you help each other in this game?

The next step is to ask students to reflect on how well they played in context and how well they cooperated as a pair. Consider using a rubric such as the ones below.

**Pair Rubric for Reflection or Self-assessment After an Educational Games Tournament: Yrs 4-9** *(Dr Helen McGrath)*

	★	★ ★	★ ★ ★
<b>Playing fairly</b>	We didn't always play by the rules	We played by the rules most of the time	We played by the rules all the time
	We often took too long to have our turn and slowed the game down.	We kept the game moving pretty well. Sometimes we took too long to have our turn	We kept the game moving well. We didn't take too long to have our turn
<b>Cooperating</b>	We didn't cooperate very well	We cooperated quite well	We cooperated very well.
<b>Respecting each other</b>	We often forgot to respect each other's ideas and effort.  There were too many putdowns.	We respected each other's ideas and effort most of the time We accepted that we were doing our best. There were very few putdowns	We always respected each other's ideas and effort.  We accepted that we were doing our best.  There were no putdowns
<b>Respecting the pairs we played with</b>	We often didn't show respect for the efforts of the other players.  We often forgot to congratulate them when they played well.	We showed respect for the efforts of the other players most of the time  We congratulated them when they played well most of the time	We always showed respect for the efforts of the other players.  We always congratulated them when they played well.
<b>Strategic playing</b>	We only improved our game strategies a little bit during the tournament	We improved some of our game strategies during the tournament	We improved many of our game strategies during the tournament.
<b>Winning and losing well</b>	We often complained if we didn't do well in a game.	Most of the time we didn't complain if we didn't do well in a game	We never complained if we didn't do well in a game. We accepted it
	We boasted a bit too much when we played well	We didn't boast very much when we played well	We never boasted when we played well

## **SOME EXAMPLES OF EDUCATIONAL GAMES THAT COULD BE USED IN A CLASS TOURNAMENT**

- Before or After?
- Mastermind
- Positive and Negative Number Game
- Mystery Square

### **BEFORE OR AFTER?**

*(McGrath and Noble, 2003)*

This is a deductive alphabetical order game which can also consolidate topic vocabulary. Select theme-related words for the game and print them on a sheet for each student.. To make the game easier, you can alphabetise the words in an A-Z format. To make it more difficult, you can print the words in any order. Students can alphabetise them in advance of the game if they choose.

- Allocate students into pairs
- Each pair chooses one word from the list that the other pair tries to guess which word it is with as few information words as possible
- Each pair tries to guess the other pair's selected word by providing '*information words*' one at a time. An information word is a request for feedback from the other pair in terms of that word's location in the alphabet relative to the chosen word eg :
  - *Request: We would like some information on the word 'bushranger' please*
  - *Response: Your word 'bushranger' is after/before our chosen word in the alphabet'.*
- If at any point during their round the word chosen by a pair as its '*information word*' is actually the word the other pair has selected, then the game finishes and the other pair says '*your information word is our chosen word*'. Then the round is repeated.
- A pair's score is the number of *information words* they had to use to guess the chosen word. It includes an *information word* that is in fact the chosen word (as described above) However if a pair says '*we would like to make a guess*' and they are correct, that guess is not an '*information word*' and does not get added to their score.
- The aim of each pair is to have a low average score (ie number of information words used) across the ten games against ten pairs in the class. They can be asked to identify what average score range they are aiming for (eg '*we think we can keep our score between 6-7*)

### *Variations*

- Use numbers from 1-100 (your number is higher/lower than my number)
- Use fractions and/or decimals ((your number is higher/lower than my number))
- Use amounts of money (your amount is higher/lower than my amount)

*For Younger Students*

Use 20 words (eg the names of animals) accompanied by pictures. Tell the children you have picked a secret word. Ask them to guess which of the 20 words you have picked. Give them feedback on their word accompanied by showing them on the alphabet (written on the board) the relevant letters eg Your word starts with M. My word starts with B (show them on the board) and so it's a word before Monkey. This can also be used with a number between 1 and 100.

**MASTERMIND**

The game of mastermind involves guessing a word, number or colour or person after analysing feedback eg

- I am thinking of a three digit number (or 4 digit number)
- I am thinking of a 4 letter word (or 3 or 5 letter word)

Students play in pairs. One pair chooses a word in which no letter is repeated. The other pair make a guess and receive the following written information under their guess:

- A tick (or a green line) means your letter/number/colour or person is both correct and in the correct position
- A dot (or an orange line) means your letter/number/colour or person is correct but in the wrong position
- A cross (or a red line) means your letter/number/colour or person is NOT correct

For example, if the word they were trying to guess was HEAD and they offered BATH as a feedback word, their feedback would be as below:

B	A	T	H
X	•	X	•

If the next feedback word was HEAP, the feedback would be

H	E	A	P
✓	✓	✓	X

If the number was 324 and the guesses were 478 and 542 the feedback would be one of these two types:

	<b>Digit</b>	<b>Place</b>
478	✓	X X X

542    ✓✓    **XXX**  
 (This version of feedback gives less information)  
**OR**

4	7	8
●	<b>X</b>	<b>X</b>
5	4	2
<b>X</b>	●	●

The aim of the game is to use as few feedback words as possible in order to work out that the word is. The tournament result is the average number of words used in each game.

### **POSITIVE AND NEGATIVE NUMBER GAME**

Use an ordinary pack of cards. An ace is one, a jack is 10, a Queen is 11 and a King is 12. Black cards are positive numbers and red cards are negative numbers. Three pairs of students sit in a circle and each pair is dealt seven cards. The rest of the cards go into the draw pile. The aim is to make twenty five. Each pair plays a card. The next pair adds a card and so on. The pair whose added card makes 25 win the round. Play several rounds. The discarded cards can be reshuffled and returned to play or use two packs of cards.

### **9 PILES**

Deal cards (face down) into nine piles with one card turned face up on each of the 9 piles. Each pair takes turns to remove and keep as many cards as they can that add up to the nominated total (eg 20). They can take two sets if they can make two combinations of exactly 20. The next pair can turn up new cards to replace those that have been taken by the previous pair. If any of the 9 piles pile runs out of cards, a card that has been turned up can be moved to make a new pile (still face up )and a new card is turned up on the pile it came from ie there can always be 9 piles with one card turned face up on each pile if it can be done.

The aim is to have the most cards at the end of the game so the best strategy is to use as many cards as possible to make the number each time.

- Play three rounds per game. The first round can focus on the number 15, the second on 18 and the third on 20.
- You can also add a Positive/negative number round where black cards are positive numbers and red cards are negative numbers ie numbers can be subtracted as well as added

- Add one joker as a wild card which can be called any number the pair chooses.
- Consider putting a time limit on each turn.

### **CARD CHALLENGE**

The aim of the game is to score the most points. Each pair is dealt 3 playing cards. They make a 3-digit number out of it eg a 4 and 6 and 5 could be either 456 or 654. or 564 or 546. One pair rolls the dice. If the number rolled is even then the pair with the highest number wins, if an odd number is rolled, the pair with the lowest number wins that round.

### **MYSTERY SQUARE** (*McGrath and Noble, 2003*)

The aim of the game is to guess the word in the mystery square (chosen by the other pair) whilst keeping the number of questions asked as low as possible. Answers given can only be YES, NO, or I CAN'T ANSWER THAT. An answer of 'I can't answer that' isn't counted in the total of questions asked. An incorrect guess is considered to be a question and is counted as such. Students can't ask location-based questions eg they can't ask 'is it in the top three row? The right half of the grid etc)

### **General Words**

Pencil	Cat	Ruler	Giraffe	Tiger	Brother
Lion	Table	Pizza	Monkey	Father	Elephant
Sofa	Earring	Mouse	Dishwasher	Casserole	Bed
Dog	Hamburger	Pig	Budgerigar	Necklace	Cow
Wardrobe	Sheep	Steak	Pencil	Vacuum cleaner	Sister
Washing machine	Ring	Aunt	Eraser	Hippo	Cousin

### Numbers

5	19	45	86	111	64
20	36	44	48	120	73
85	33	32	132	57	92
23	81	11	1	128	25
3	103	176	109	87	94
38	8	99	7	22	56

### Natural Disasters

Earthquake	Lava	Vulcanologist	Fire truck	Eruption	Ash
Volcano	Tsunami	Ice storm	Weather	Cyclone	Deluge
Lightning	Ocean	Mudslide	Fire officer	Richter scale	Volcano
Storm	Hurricane	Back-burning	Avalanche	Wind	Meteorologist
Flood-gate	Erosion	Fault	Levee bank	Aftershock	Drought
Sandbags	Flood	Bushfire	Thermometer	Tornado	Rain

### Other Topics and Variations for Mystery Square

- Shapes (eg pentagon, cube, circle, square, hexagon etc)
- Measurement (eg 50ml, 3kg, 9km)
- Language (eg students can only ask questions about the structure of the word eg part of speech, number of syllables etc)
- Use a smaller number of items for younger students or use pictures that can be turned over once eliminated