



# thinking space

## PARADOXES AND PUZZLES

### WHAT IS IT?

Getting stuck is an essential educational experience that builds intellectual resilience and resourcefulness. But getting stuck can be frustrating; so frustrating that many learners will inevitably turn to their teacher to supply all the answers.

Paradoxes and puzzles present an opportunity for learners and teachers to enjoy getting stuck. Some of the greatest minds have grappled with puzzles such as Zeno's Arrow or the Euthyphro dilemma without a teacher to 'give them the right answer'.

Paradoxes and puzzles are a particularly useful educational resource precisely because there is often no right answer; two sides of an argument might equally present themselves.

### RECIPE

- **No. of participants:** 5 – 30
- **Age of participants:** Suitable for any age
- **Preparation time:** 10 minutes to choose the puzzle, longer if creating a dramatisation of it.
- **Delivery time:** 10 minutes – 1 hour
- **Materials:** A copy of the puzzle or paradox.

### HOW DOES IT WORK?

You can present a puzzle or paradox as simply or creatively as you like. You could let students choose from a bank of paradox cards; or even present the paradox as a story or dramatization. (See 'Enquiry in Role' Tool.)

If you have two puzzles that push the group in different directions then perhaps present them to separate halves of the group before bringing them back together for discussion. (See 'Community of Enquiry' Tool.)

During your reflection encourage learners to share the strategies they used to cope with being stuck. Did they ask further questions; clarify terms; draw diagrams; look at the puzzle from more than one point of view? Etc.

## EXAMPLES

### Examples of Puzzles and Paradoxes

#### Sorites Paradox

If I subtract one grain from a heap of a million grains of rice, I'll still have a heap. The subtraction of one grain will never make the difference between a heap and a few grains. Yet if I continue to remove one grain at a time I will end up without a heap. How can this be?

#### Buridan's Ass

The perfectly rational ass stands between two bales of hay. Each bale is equally large and an equal distance away. The rational ass starves to death because he lacks a reason to choose one hay bale over another. How does a reasoned decision produce an irrational outcome?

#### Euthyphro Dilemma

Does God command the good because it is good, or is it good because it is commanded by God?

#### Liar Paradox

'This sentence is False'. If this sentence is true, then is it not false? If it's false, then is it not true?

#### The Paradox of Fiction

Since you know she is a fictional character – why cry at the death of Anna Karenina or any tragic fictional character?

## TIPS

- Try using puzzles or paradoxes as quick lesson starters.
- If the group all seem to agree then ask them what someone who disagreed with them might say.
- For those who have a strong intuition about a puzzle it's important for them to be able to explain why they think what they do. This improves reasoning, and speaking and listening skills amongst the whole group.

## FIND OUT MORE

- 'The Pig that Wants to be Eaten' by Julian Baggini
- 'Can a Robot be Human?' by Peter Cave
- 'This Sentence is False' by Peter Cave
- 'What's Wrong with Eating People?' By Peter Cave
- See 'Community of Enquiry' Tool



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