

THE WAND - THINKING ABOUT TESTING CLAIMS

Equipment needed and preparation:

(Optional) a prop to be the 'wand' (I use a chopstick)

Starting age: 10 years

Key concepts / vocabulary: Test, causal connections, belief, proof, superstition, prayer

Subject links: Science, maths, RE

Key controversies: Should one confirm a theory to test it or should one disconfirm (falsify) it?

Quote: 'The root of all superstition is that [people] observe when a thing hits, but not when it misses.' - Francis Bacon

'If a black cat crosses your path, it signifies that the animal is going somewhere.' - Groucho Marx

Critical thinking tool: The Post hoc fallacy - its full name is post hoc ergo propter hoc and it is latin for 'after the event therefore because of the event'. A teacher colleague of mine, in order to get her class thinking about luck and superstition, told them a story about how she and her uncle had been to see their football team play, and that every time he had taken her with him the game had gone to penalties; the last time it happened he said to her, 'It's your fault!' She had asked the children the following task-question: 'Was it my fault?' and one of them said, 'No, it's just a coincidence.' [Credit Elisha for this nice example.] The post hoc fallacy is when someone mistakenly believes that one event is the cause of another just because it has occurred before the other event. This is closely related to the correlation/causation fallacy, when a correlation between things is mistaken for a causal connection. So, if people who go to university generally have a lot of books it would be a mistake to think that by putting lots of books in your house you will therefore go to university.

Key Facilitation Skill: Intuitive grasp - teaching an argument-type or fallacy explicitly, like you might do if teaching Critical Thinking A Level, is not easy when working with primary aged (5-11) children. However, they can be very good at grasping, intuitively, how critical thinking tools and moves work, particularly when they are asked to think about an argument that is fallacious (in other words, bad!). I find the best way for children to grasp the principles of critical thinking is through stories such as the ones you'll find in this Thought Adventure. If you want to try to explain or teach a fallacy then I suggest you, first of all, engage the class critically with a story that contains the fallacy, and only once they've explored it critically and demonstrated a grasp of it, should you attempt to teach it.

Session Plan:

Say: The Hodja is a story character thought to have originated from Turkey though he and his stories are found in many other cultures around the world. The Hodja, also known as Nasreddin, Mulla Nasreddin, Efendi, is sometimes wise and sometimes a fool, sometimes unemployed and sometimes a judge or religious leader. His stories are often humorous, puzzling and thought provoking. Many of them are very short, barely qualifying as stories at all.

Do: Read, tell or perform the following very short story:

Say: The Hodja was at the market and a seller was trying to sell him a wand.

'If you wave this wand outside your house each morning,' said the seller, 'it will keep lions away, which is useful because lions are man-eaters.'

'That's a good point,' said the Hodja, 'But how do I know that it works?'

The seller said, 'Well, do you see any lions around here?'

'No,' said the Hodja after looking around, 'I'll take it!' he said, eagerly putting some money into the seller's hand.

Task Question:

- ✓ Does the wand work?

Nested Questions:

- ✓ Has the seller proved that the wand works?

- ✓ If there really are no lions around does that show that the wand works?
- ✓ If there were lions nearby would that show that the wand does not work?
- ✓ If the Hodja waves the wand each morning and no lions come nearby has the wand worked?
- ✓ What would happen if he failed to wave the wand around? What would it prove?

Task Question 2:

- ✓ Is there a test that will prove whether the wand works or not?

Say: The Hodja began to suspect that he may have been conned by the seller, so he decided that he would test the wand. Just as the seller had advised each morning the Hodja waved the wand outside his house. He did this for a full month and at the end of the month he had not seen a single lion anywhere near his house. He concluded, therefore, that the wand must indeed work. The Hodja believed that the wand worked because now he had tested it for himself.

Task Question:

- ✓ Did the Hodja's test work?

Nested Questions:

- ✓ How would he know if it has worked or not?
- ✓ Is the best thing to wave the wand, as the seller advised or is the best thing to not wave the wand?
- ✓ Can you think of a better way to test the seller's claim?

Extension activities:

The cockerel's argument

Do: Tell the class that you will assume the character of a cockerel, then read the following:

Say: I am the cause of the sun rising every morning. I know this because I have crowed every morning before sunrise and every time I have crowed the sun has risen. If you don't believe me, then come here tomorrow, just before sunrise, and I'll show you!

Task Question:

- ✓ Is the cockerel right?

Nested Questions:

- ✓ If the cockerel is not right, what's wrong with what it said; what is wrong with its argument? (See page x)
- ✓ What do you think the cockerel will do in the morning to prove that it is right?
- ✓ Could you prove the cockerel wrong? If so, how?

Challenge to the teacher: explain the post hoc fallacy and/or the correlation/causation fallacy to your class!

A Turban Tale (A Hodja Story - see page x)

Say: A long time ago in Turkey the wealthier an individual the larger their Turban tended to be, and the wealthier someone was, the more education they could afford. Generally speaking, Persian was spoken only by the educated.

One day the Hodja was with some friends and they had come to him to read a letter for them that was written in the Persian language. But the Hodja was struggling to read it. His Persian wasn't very good.

'What's the matter, Hodja, can't you read it?' said one of his friends.

He struggled on until, eventually, another of his friends said, 'But Hodja, you have the largest Turban of us all, you should be able to read Persian!'

The Hodja, by now very annoyed, took off his Turban, placed it on the head of his friend and said, 'There! You read it!'

Task Question:

- ✓ Now that his friend is wearing the large turban will his friend be able to read Persian?

You may want to put the argument up on the board and ask the children what they think of it:

If you are wearing a large turban then you must be wealthy;

If you are wealthy then you can afford a good education;

If you are educated then you will be able to speak Persian;
Therefore if you are wearing a large turban then you must be able to speak Persian.
The Hodja is wearing a large Turban so the Hodja must be able to speak Persian.

Related Resources:

Know Cards (see page x)

Is This a Poem? (see page x)

Doing Philosophy (see page x)

Who's Right? (see page x)

The Talking Skull (see page x)

The Hypothesis Box (see page x)

The Telekinetic Teacher (see page x)

Here's a Thought (see page x) especially the 'telepathy' exercise

The Thinking Test (see page x)

The If Machine: The Shadow of The Pyramid, The Tony Test

The If Odyssey: The Stranger

Once Upon an If: Flat Earth, The Cat That Barked, The Six Wise Men, The Fire Stick, The Luckiest Man in The World, The Island,

Thoughtings: How Do You Know That?

The Philosophy Shop: Tina's Ghost, The Confession, The Adventures of Poppy The Bear, The Three Minute Old Universe, The Butterfly Dream, The Broken Window, Jean-etic

Plato Was Wrong! By David Shapiro: I sometimes run 'The Wand' in conjunction with Shapiro's 'Confirmation bias exercise' (page 79)