Lateral Thinking

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Managing Innovation

Lateral Thinking

One powerful creativity approach, associated with the work of Edward de Bono is called 'lateral thinking'. It involves solving problems through an indirect and creative approach, using reasoning that is not immediately obvious and involving ideas that may not be obtainable by using only traditional step-by-step logic.

He coined the term back in 1967 to explain a style of thinking which aimed at moving away from linear step-by-step thinking and taking a step sideways to re-examine a problem from a different viewpoint. Rather than digging a deeper hole in one place we need to move sideways and start excavating somewhere new; in the process we may enable a new insight, a new perspective on the original problem.

Lateral thinking tools are systematic aids to moving sideways in our approach to problems. One example is the 'intermediate impossible', where we come up with an idea which is itself impossible but which might provide the stepping-stone to a practical and novel answer. Just like a stepping stone the idea itself may be wobbly and poorly shaped but it helps us get to our goal.

For example in trying to improve the food and service in a company canteen someone might suggest providing fresh foods where possible. One intermediate impossible suggestion might be to bring cows into the workplace – not in itself very practical! But it provides the stepping stone to ideas about how to get fresh milk as opposed to using long-life packages – for example by making arrangements with a local dairy for daily deliveries.

Some key principles behind lateral thinking are:

- ***"You cannot dig a hole in a different place by digging the same hole deeper"***

In other words trying harder in the same direction may not be as useful as changing direction.

- ***Challenge assumptions and be prepared to change perceptions***

In most problems as they are presented we assume certain concepts and boundaries. Lateral thinking challenges and rearranges these

- ***Escape from a local optimum in order to move towards a more global optimum.***

This implies a need to 'see the wood for the trees', to see the bigger picture and solve the problem at that level

A good example of a lateral thinking puzzle – and the application of these principles is the following.

Pretend that you're trapped in a magical room with only two exits. Through the first exit is a room made from a giant magnifying glass, and the blazing hot sun will fry you to death. Through the second door is a room with a fire-breathing dragon. Which do you go through?

The answer is to use the first door - simply wait until the sun goes down.

Though the question is presented as a binary choice—one option or the other—when you disregard the assumption that you must act immediately, the "best" answer becomes obvious.

Here are five steps to train yourself to think a little more laterally with any challenge:

1) List the assumptions

When confronted with a question (problem, challenge, etc.), write out the assumptions inherent to the question. In the case of the puzzle above, the list might include the following:

- You want to get out of the room
- You have to choose one of the two options
- You have to do something now
- Room One will kill you no matter what (or so we think!)
- Room Two will kill you no matter what

2) Verbalize the convention

Next, ask yourself the question, "How would a typical person approach this problem?" Map out the obvious, straightforward solutions. Then ask yourself, "What if I *couldn't* go this route?"

3) Question the question

Ask yourself, "What if I could rewrite the question?" Rearrange the pieces, as de Bono suggests, to form a new scenario. In the trapped room scenario, instead of, "Which do you go through?" you might rewrite the question to ask, "Will you go through one of them?" or "Will these really kill you?" or "Do you even need to go through one of them?"

4) Start backwards

Often the route to solving a problem is revealed when you start with the solution first, and try to work backward. For example, asking the question, "How would I get into a trapped room if it were adjoined by a room made out of a magnifying glass?" By reframing the challenge in this way, you'll notice that I

stripped away the details that cause you to overthink the answer to the trapped room example. But in a real-life scenario, this question might sound more like, “How could we renewably generate 10 gigajoules of electricity?” rather than “How could we make the city more energy efficient?”—a vague question that often results in straightforward, but ineffective answers like, “Get people to turn off their lights more.”

5) Change perspective

Finally, one of the reasons innovation often happens when outsiders enter a new industry, or when disparate groups bump into one another, is because fresh perspective are convention-ignorant. To kickstart lateral thinking, you might do well to pretend you were someone else trying to solve the problem. Say, if you were a magician, or a scientist, or a track and field star—how would they escape from the fire room? Or how would the fire-breathing dragon answer this question? Etc.

Some examples of puzzles which require lateral thinking are given below. Read each question and then write down your first answer:

1. Name an ancient invention still in use in most parts of the world today that allows people to see through walls.

2. A black man dressed all in black, wearing a black mask, stands at a crossroads in a totally black-painted town. All of the streetlights in town are broken. There is no moon. A black-painted car without headlights drives straight toward him, but turns in time and doesn't hit him. How did the driver know to swerve?

3. An Australian woman was born in 1948 but only celebrated her 16th birthday quite recently. Why?

4. A five letter word becomes shorter when you add two letters to it. What is the word?
5. How many grooves are there on an old LP record?

6. How many animals of each species did Moses take into the Ark?

7. In what sport are the shoes made of metal?

8. If a plane crashes on the Italian/Swiss border, where do you bury the survivors?

9. A man was pushed out of a small aeroplane, without a parachute but survived with no injuries apart from a few bruises. How was this possible?
10. If a red house is made of red bricks, and a blue house is made of blue bricks, what is a green house made of?

11. How can you throw a ball as hard as you can, and make it stop and return to you, without hitting anything and with nothing attached to it?

12. In which direction is the bus to the right travelling?

13. What can you hold in your right hand, but not in your left?

14. A cowboy rode into town on Friday, spent one night there, and left on Friday. How do you account for this?

15. What word is always spelled wrongly?

16. What common chemical compound can be represented: H, I, J, K, L, M, N, O?
17. Jane gave Jill the following challenge: "If you sit down in that chair, I bet you five pounds I can make you get out of it before I run around the chair three times," he said. "That's not fair," Jill said. "You'll just prick me with a pin or do something similar" "Nope," Jane said. "I won't touch you, either directly or with any object. If you get out of the chair, it'll be by your own choice." Jill thought, accepted the challenge, and lo and behold, Jane won the bet. How did she do it?

18. Four people try to get underneath one small umbrella, but nobody gets wet. How is this possible?

19. What is the next letter in this sequence J F M A M J ?

20. A farmer owns a beautiful pear tree. He supplies the fruit to a nearby grocery shop. The shop owner has called the farmer to see how much fruit is available for him to purchase. The farmer knows that the main trunk has 24 branches. Each branch has exactly 12 boughs and each bough has exactly 6 twigs. Since each twig bears one piece of fruit, how many plums will the farmer be able to deliver?

21. A 6-foot tall man was holding a glass beaker above his head. He let it drop to the carpet without spilling a single drop of water.

    How could he manage to drop the glass from a height of six feet and not spill a drop of water?

22. A fire officer has 12 matchsticks lying in front of her. She removes just one of them. She now sees 9 in front of her. How is this possible ?

23. In many London Underground tube stations there are two up escalators but only one going down. Why?

24. At a school 27 pupils wore red coats, 29 wore black coats and 40 wore blue coats. How many pupils were wearing green coats?

Answers

1. The window.
2. It was day time
3. She was born on February the 29th.
4. Short
5. Two: one on each side.
6. None. NOAH built the Ark.
7. Horse racing; or other horse sports.
8. You don't bury survivors!
9. The aeroplane was on the ground.
10. Glass
11. Go outside and throw it upwards.
12. Assuming that the bus is in the UK, the passenger doors much be on the opposite side of the bus, so the bus is travellling to the right. If you are in the United States or another country which drives on the right hand side of the road, the bus would be travelling to the left. 90% of UK children who took a test on this got it right, even if, sometimes, they did not know why!
13. Your left hand, forearm or elbow.
14. His horse was named Friday.
15. Wrongly
16. H_20 or Water (H to O)
17. Jill sat down in the chair. Jane ran around it twice, then said, "I'll be back in a week to run the third time around!
18. It’s not raining!

19. J (for July). They are the first letters of the months of the year.
20. None - it's a pear tree.
21. The glass was empty.
22. The remaining eleven matchsticks form the word NINE
23. People leave trains in a group, so all arrive at the escalators at the same time, but tend to go down to the trains in a more even flow, hence you need less down escalators.
24. 49 pupils. Letter A = 1, B= 2, C = 3 and so forth, so GREEN = 7 + 18 + 5 + 5 + 14 = 49