



Collaboration Puzzle Instructions



Watch a demonstration video at www.metalogtools.us.

Collaboration Puzzle is an exercise in self-organization. With no instructions, a team must find a way to insert eight dowels of varying lengths into an upright frame so that each dowel protrudes at the same height. They are only allowed 100 'movements' so they must quickly identify the essential tasks, communicate with precision, and learn from their mistakes. Use this tool to practice teamwork, problem-solving, and Agile project management.

How does it work?

The trainer takes the team to a 'work room,' where the frame and six dowels are set on a table. Two dowels are in the frame and the trainer explains that only one is in the correct position. Participants are given 10 seconds to observe the puzzle, and may not touch it.

The team then moves to a 'meeting room' to strategize and prepare to return to the work room, one person at a time, in an order they decide. Each person may make two movements with the puzzle per visit (see rules below), and the team is allowed 100 movements total. Once each person has taken a turn, they start over again in the same order. No talking is allowed between the two rooms.

The goal is to complete the activity in as few movements as possible, and in 45 minutes or less.

What do you need?

People: (min / optimal / max): 3 / 6 / 10

Time for Activity: 15-45 minutes (not including reflection)

Materials: 1 wooden frame, 8 wooden dowels, 1 black nylon carrying case, 1 set of instructions

Workspace: 20 x 20 sq ft for a team meeting room and 8 x 8 sq ft for a work room for the puzzle. Leave enough space between the rooms to prevent visual and oral contact.

Instructions

1. To prepare for the activity, find two adjacent rooms as described above. The meeting room should include a visual aid such as a flip chart or chalk board. The work room should have a table for the frame and dowels. There should be a sight and sound barrier between the two rooms.
2. Set the frame on the table in the work room. Insert two dowels - one correctly and one incorrectly - then lay the remaining six dowels on the table.
3. Familiarize yourself with the solution to the puzzle. Use the attached photo and note that the solution only works if the frame faces one way. If you face the frame the opposite way, the solution will be reversed.
4. Gather in the meeting room. Explain the goal of the activity. You can say something general like *"Your task is to insert all eight dowels into the frame so that they all protrude from the frame equally. You will have 45 minutes to complete the challenge."*
5. Outline the rules:
 - On our first visit to the work room together, you cannot speak or touch the puzzle. You will have just 10 seconds to observe the puzzle.
 - You must establish an order for how you will take turns going to the work room and stick to this order.
 - You may not speak (or be spoken to) while you are in the work room.
 - You will have two movements per turn and 100 movements total.
 - One movement is when you:
 - Pick up a dowel and insert it into the frame.
 - Pick up a dowel and remove it from the frame.
 - Pick up a dowel, then set it down again.
 - Two movements are when you:
 - Take hold of a dowel, pull it out of the frame and insert it in another position.
 - Pick up two dowels and insert them into the frame.
 - Pull two dowels out of the frame.
6. Start and observe the activity.

7. Lead the debrief, basing the conversation on your original intent for the activity. Here are some sample questions to ask:

- During the activity, how did you decide on a strategy?
- Did you have to modify or adjust your strategy during the exercise?
- Who played which roles?
- What part of the activity was the hardest and how did you succeed?
- What role did communication play? What did you learn about communication from this activity?
- How did you handle mistakes?

Variations

Focus on Setting and Achieving Goals

At the start, ask the team to set a goal to solve the puzzle by a specific number of movements.

Focus on Team Meetings

Ask the team to conduct 10 movements in silence, then come together for a team meeting or scrum.

Make it More Challenging

Try inserting both dowels into the wrong position at the beginning of the activity or remove one of the dowels and have the group solve the puzzle with just seven dowels.

Tips

Move between the two rooms during everyone's first turn. Accompany each person into the work room and check whether he or she understands and is following the rules, then accompany the person back into the meeting room.

Expect the unexpected! Each group will solve Collaboration Puzzle in a slightly different way because it authentically reflects each group's unique situation. This is a great opportunity for you as a trainer. Give the participants the space they need, and you will be delighted with their spontaneous reactions. Use everything that happens to create sustainable learning outcomes.

Common Sense Caution

This activity requires participants to move around on their feet. Some participants may experience dizziness, nausea, vertigo or headaches, and may fall or stumble as a result. If a participant suffers from balance problems, vertigo, dizziness, lightheadedness or orthopedic problems, he or she should refrain from participating in this activity or sit in a chair while participating.



This is the correct position of the dowels inside the frame.

Please note that the solution only works if the frame faces one way.
If you face the frame the opposite way, the solution will be reversed.