

A VR TASK TO STUDY COLLABORATIVE LEARNING

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Context

There is a great potential for VR in college education, for instance for collaboration with **far away** people, working with rare or expensive materials, the potential for **movement**, or even **motivational** aspects. Also, collaborative learning is recognized for its positive impact on learning outcomes.

How to study mechanisms of collaborative learning in a virtual environment ?



Fig. 1 Physical task with "Cubelets" cubes

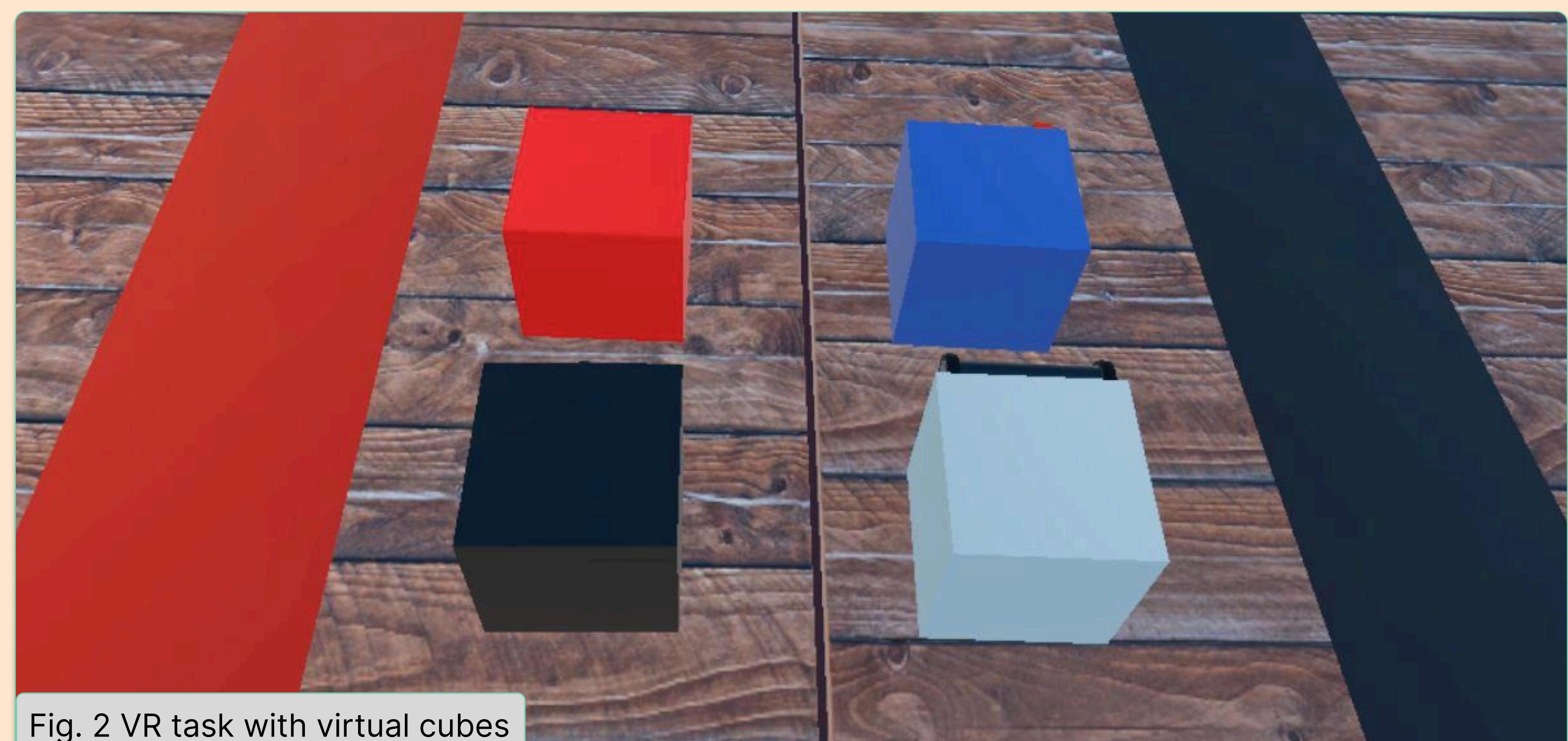


Fig. 2 VR task with virtual cubes



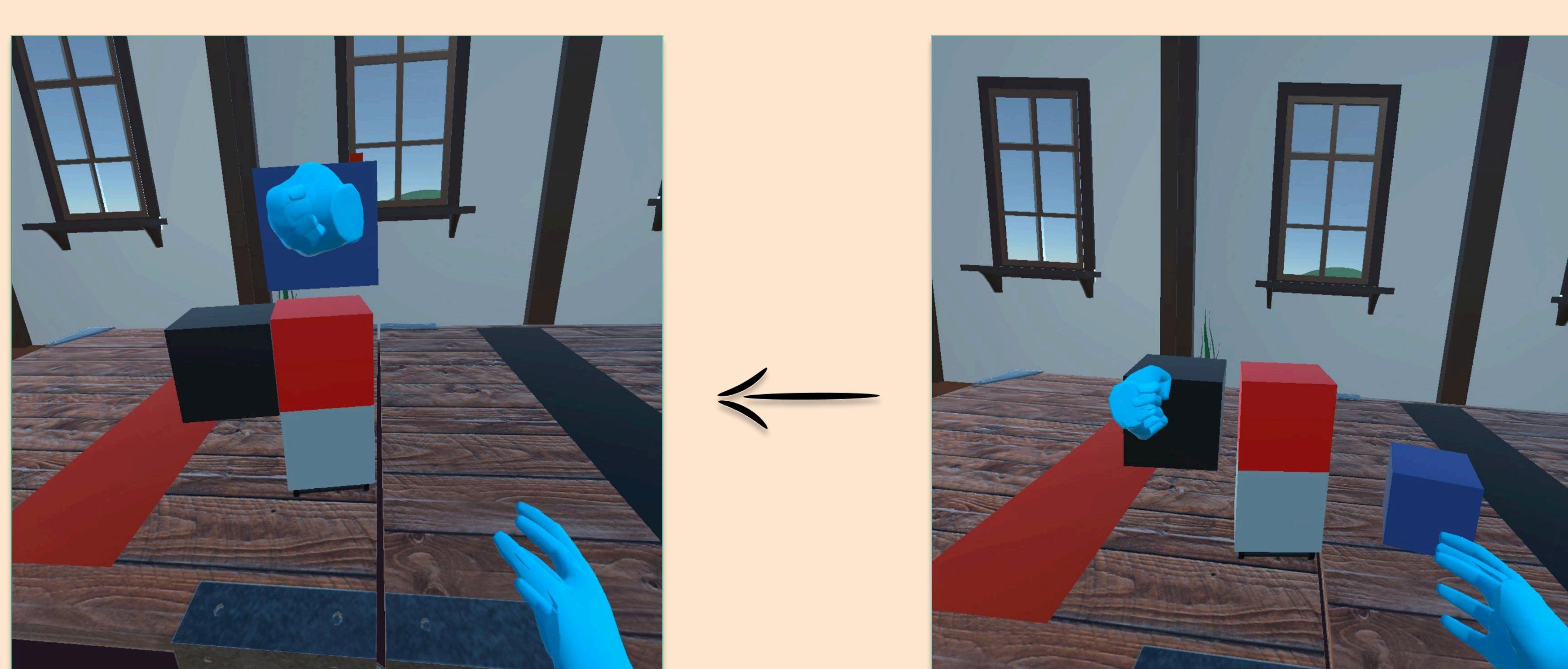
An Educative Task

This is an existing task usually done with physical robots to study **creativity** and **computational thinking** through understanding and problem-solving.

We adapted it so it could be done collaboratively in VR (in pairs).

How it works :

The task is made up of 4 cubes and involves manipulating and assembling these cubes in order to build a vehicle that moves autonomously from an initial point to an end point.



Results

We introduced a VR version of an open learning task (Fig. 2) that can be done collaboratively.

- no prerequisite expert knowledge needed
- fairly short duration
- interesting from an **educational** standpoint



Pilot Study

With 7 persons, we tested :

- Usability
- Transfer of knowledge

