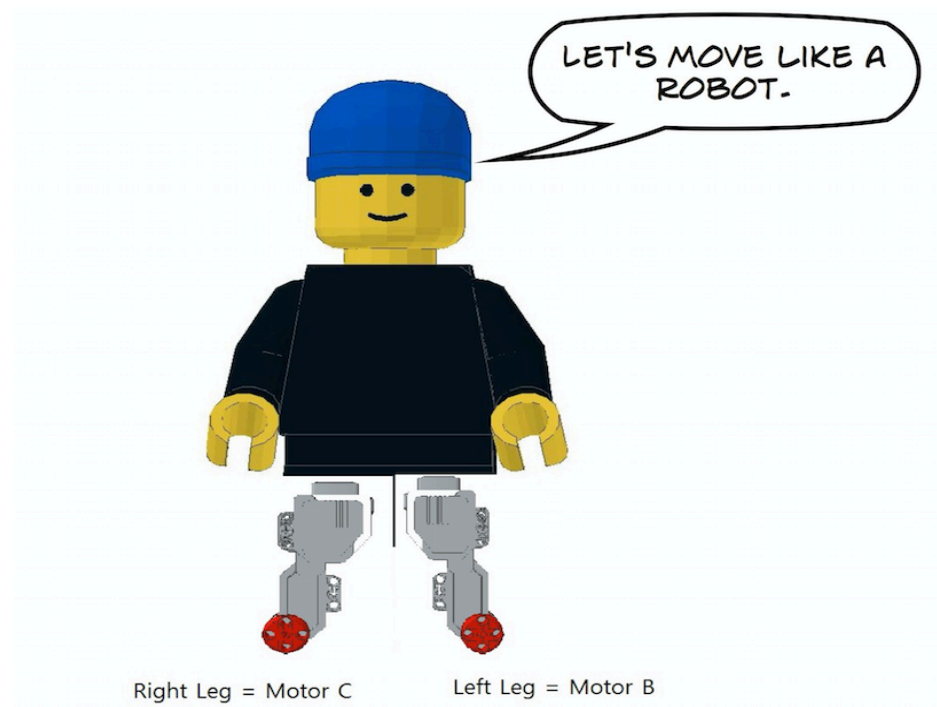


# Physical computing with physical activity

DAEWON LEE

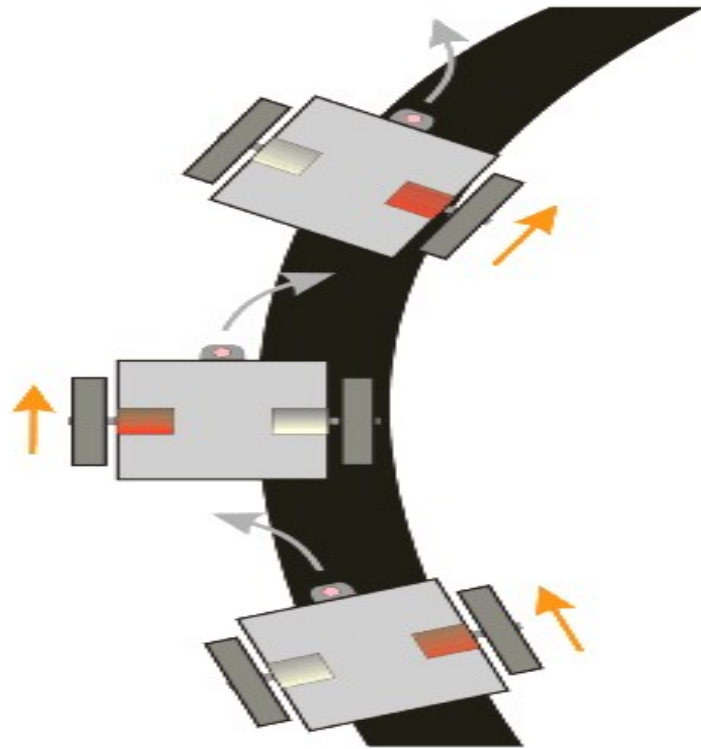
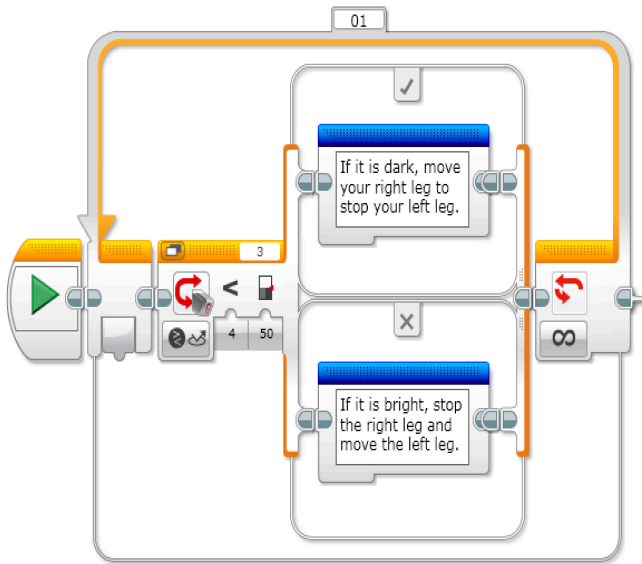
JAEHYUNG LEE, CHAEHWAN KIM, JUNKI WOM



# embodied cognition

Cognitive psychological perspective that human cognitive processes are based on the interaction between perceptual experience and the environment.

# Move in Zigzag Why?



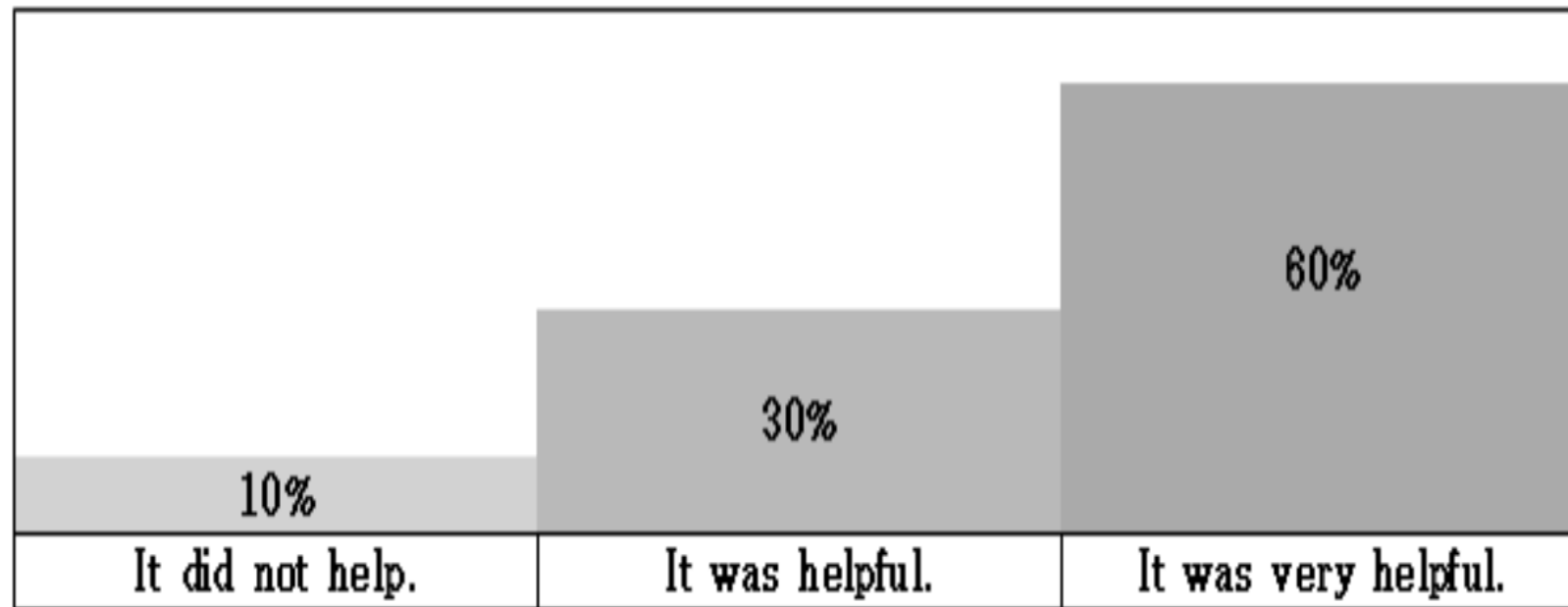
# Embodied cognitive learning



# The purpose of the study

- Was it possible to understand the movement of the robot by moving the body like a robot?
- Why do you think it works?
- Did any activity help you understand the robot's movement?

# Was the activity using the embodied cognition helpful?

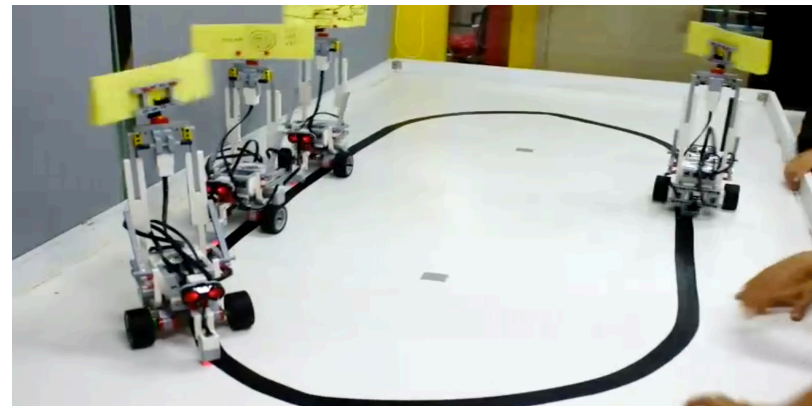
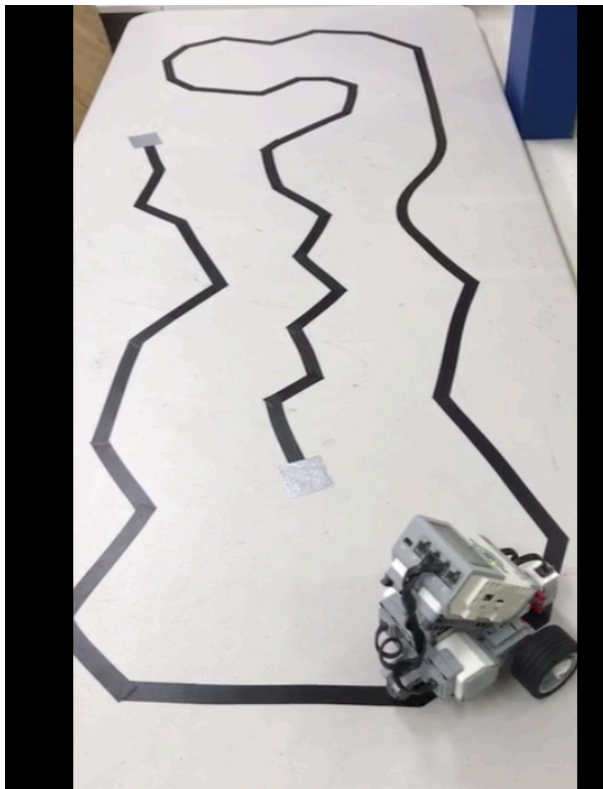


<K-3 grade students>

# Future research direction

- We need research to understand robot education using embodied cognition.
- You need to use your own body to learn the driving source of the robot and sensors.
- The learner should study the interaction between his / her body, the environment, and the robot.

# Single Sensor Line Follow



# Thanks

Han, I., & Black, J. B. (2011). Incorporating haptic feedback in simulation for learning physics. *Computers & Education*, 57, 2281-2290.

Ackerman, J. M., Nocera, C. C., & Bargh, J. A. (2010). Incidental Haptic Sensations Influence Social Judgments and Decisions. *Science*, 328, 1712-1715.