Where does the difficulty lie in using a map in the real world?

To explore why some people have difficulty with maps, we developed a field-based map skills assessment:

Experiment 1: Revealing

Task: Students do the flag sticker task without instruction or scaffolding.

Results: Although some children do well in the task, many children are confused. Both representational correspondence and configurational correspondence errors (experiment 2, task 4) are seen.

Experiment 2: Reflecting

Goal: To explore the mapping thought processes of students who make the most wrong sticker placements.

Task: Same as Revealing, however, students also write down "what clues you used to decide where to place the sticker."

Result A, Sticker Placement: Reflecting students did much better on sticker placement than the baseline students. In particular, representational correspondence errors were much less common.

Interpretation: The requirement to reflect on and articulate their thought processes made evident by itself the absence of instructions on feedback, improved students’ performance.

Result B, Other answers:

Students’ other answers may be:
- Inaccurate description of the environment (e.g., actual location not in the real world, but on the map (e.g., Amazon)).
- Inaccurate reference to the land because they assume objects that are in the real world but not on the map (e.g., mountain).

Interpretation: The map of environmental perception, predicting may not correspond to the map of environmental perception, understanding.

Experiment 3: Verbal Description

Goal: To explore the difficulty of the students’ verbal description.

Task: Students placed stickers on maps after seeing and hearing a verbal description of sticker placement (e.g., "where we went to play frisbee.")

Result A, Sticker Description: The students placed stickers on maps after hearing a verbal description of sticker placement (e.g., "where we went to play frisbee.")

Interpretation: A: Understanding the map may be, is not providing accurate information. Whether to either learn to access relevant information from a verbally complex environment, most children place the stickers accurately.

Interpretation B: Memory of verbal map-representational correspondence information does not imply that a students will be able to use a map in the real world.