

MP-Game-5: Multiplayer Boolean Concept Learning
(Summurization Format)[illegible]

Intro

Our goal is to collect cheaper data for cultural ratchet experiment. In the spring, we ran a pilot experiment, with a “round-by-round” format, where players only learned a single concept. In fall, we ran a pilot experiment with a “summurization” format, where palyers played multiple concepts. For spring pilot (round-by-round), we had 5 concepts, each with two different lists of stimuli. For fall pilot (summurization), we had the same 5 concepts and selected one of two lists of stimuli, from spring.

Cost Comparison

Spring Pilot Cost Per Round (Round-By-Round-Format):

$$\$122.40 / 36 = \$3.40 / \text{round}$$

Fall Pilot Cost Per Round (Summurization-Format):

$$(\$ (1.25 * 20 + .50 * 20) + \$11.60) / 40 = \$1.165 / \text{round}$$

If we were maximally efficient, the Fall Pilot would be \$.892 / round. We had two games crash midway because of players disconnecting; so our cost for the pilot was slightly higher than expected according to the data we collected.

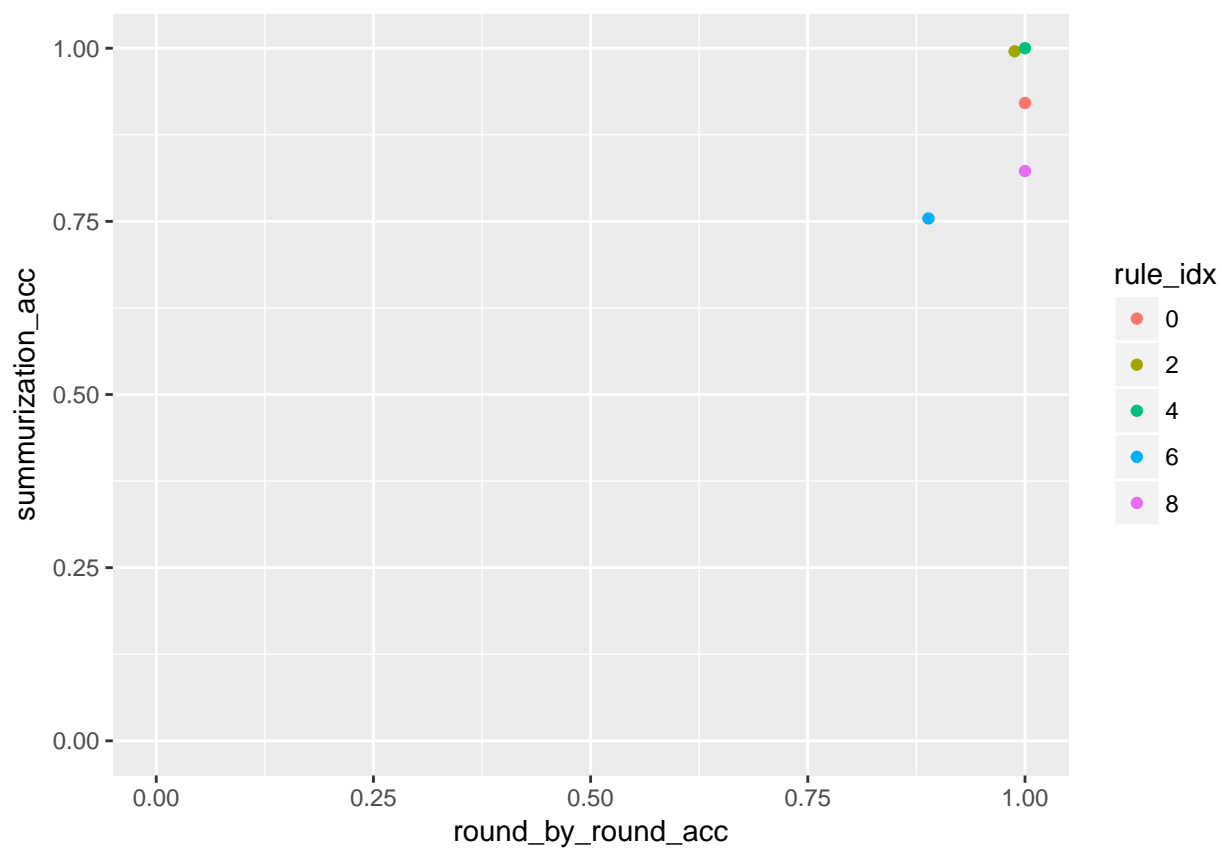
Experiment Details (Critters)

- 81 total possible critters: ~50 training, ~31 test
- 4 axes of variability:
 - Critter Type (Bug, Fish, Bird)
 - Primary Color (Blue, Green, Orange)
 - Secondary Color (Red, Yellow, Purple)
 - Size (Small, Medium, Large)

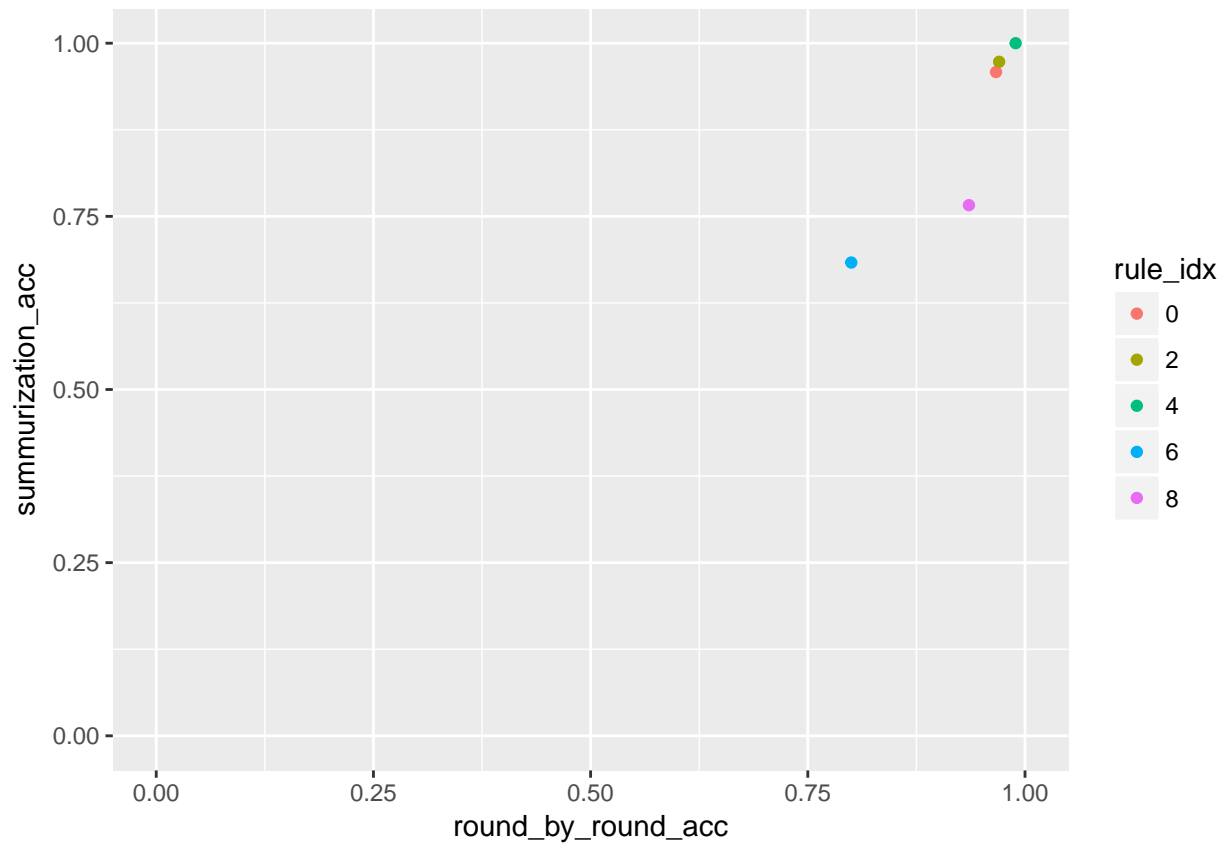
Experiment Details (Concepts)

- Primary Color == Orange (“Orange things”)
- Critter Type == Fish && Primary Color == Blue (“Blue fish”)
- Primary Color == Orange && Secondary Color == Purple (“Purple and orange things”)
- Critter Type == Bug || Secondary Color == Yellow (“Bugs, or yellow things”)
- Critter Type == Bird || Primary Color == Green (“Birds, or green things”)

Explorer Performance (Round vs. Summurization Acc.)



Student Performance (Round vs. Summurization Acc.)



Explorer Performance ()

Next Steps

- Language Analysis