**Grounding Natural Language Descriptions**

*Grounded language learning* bridges internal robot sensory information with natural language predicates (such as nouns and adjectives). It is expensive to obtain labels between objects and predicates.

**Natural Language Setting**

We use an object identification task to gather human language labels for objects. People described an object in natural language, then a robot asks about whether predicates in the description apply to surrounding objects, clarifying their meanings.

**Opportunistic Active Learning**

Participants described an object on Table 2 from the *active test set*, then answered the robot’s questions about the objects in its *active training set* on Tables 1 and 3 before the robot guessed the target object.

**Experiments**

We compare a *baseline* agent that can only ask about relevant predicates for the current user to an *inquisitive* one that can ask about any predicates it knows, hoping to improve interactions with future users. Learning is done over three rounds.

In round 1, the agents differed only in the number of questions they could ask. In round 2, the *inquisitive* agent could both ask more questions and ask about off-topic predicates. In round 3, the agents differed only in their training so far, and both had their number of questions fixed to $m = 3$.

**Conclusions**

Opportunistic active learning can be used both to accomplish a current user’s object identification task more reliably and to improve downstream performance by asking off-topic (inquisitive) questions.