The Scope of Conventionality
Do Children Expect Newly-Learned Words to be Mutually Known?
Andrew Bartnof¹, Mahesh Srinivasan², Ruthe Foushee², & David Barner³
¹Northwestern University, ²University of California, Berkeley, ³University of California, San Diego
abartnof@u.northwestern.edu | srinivasan@berkeley.edu

Introduction
• For words to function properly, they have to be understood as social conventions (Lewis, 1969).
• Learning Problem: Words vary in how widely they are shared within a language community (Clark, 1998).

How do children come to expect whether words they know will be known by others?

Children choose unlabeled object even when puppet had been absent during teaching of 1st label (Diesendruck and Markson, 2001)

Experimenter directly asks child if they think puppet knows label after it is coined

Assume absent puppet uses same symbolic system, but may not share knowledge of specific words

Our approach
• Does choice of unlabeled object depend on assuming puppet knows first label?
  – Compare pedagogical labeling (“This is a dax”) to coined labeling with child’s input (“What should we call this? A dax or a zev?”)
  – Directly assess assumptions of shared knowledge and relation to theory of mind development (Sabbagh and Henderson, 2007)

Study 1: Do children think newly-learned word will be known by others?

Do children expect newly-learned words to be mutually known?

• Following this logic, other findings have been taken to show that children:
  – Expect object labels and functions to be shared within a language community (Clark, 1998).
  – Following this logic, other findings have been taken to show that children:
  – Expect object labels and functions to be shared within a language community (Clark, 1998).

Study 2: Do children think Percy knows 1st object label when it was coined?

Experimenter directly asks child if they think puppet knows label after it is coined

Study 3: Do children think Percy knows 1st object label when it was taught?

Does choice of unlabeled object depend on assuming first label?

• Children do not re-attributing knowledge to absent puppet

Dialogue in red: Studies 2 and 3 only.

Study 2: Do children think Percy knows 1st object label when it was coined?

Experimenter directly asks child if they think puppet knows label after it is coined

Study 3: Do children think Percy knows 1st object label when it was taught?

Experimenter asks child if they think puppet knows label after it is taught

Study 1: Which of the following does best approximate children’s expectations?

Error bars represent bootstrapped 95% confidence intervals

Study 2: Which of the following does best approximate children’s expectations?

• Older children and adults select unlabeled object more often than chance
• Knowledge attribution does not predict object choice, z = 0.29, p = 0.78
• With stronger ToM, children more likely to say absent puppet doesn’t know 1st object’s label, z = −1.37, p < 0.001

Study 3: Which of the following does best approximate children’s expectations?

• Knowledge attribution does not predict object choice, z = 1.45, p = 0.15
• Children not more likely to attribute knowledge of taught label to absent puppet (Study 3) than knowledge of coined label (Study 2), z = −1.75, p = .08
• With stronger ToM, children less likely to attribute knowledge to absent puppet, z = −4.07, p < 0.001

Discussion and Future Directions
• Children’s responses in previous studies do not reflect assumptions of shared conventional knowledge
• Limitations in theory of mind initially prevent children from thinking others do not know the words they know.

Relation between Theory of Mind and Knowledge Attribution

• Children’s responses in previous studies do not reflect assumptions of shared conventional knowledge

References