Learning cues to category membership: patterns in children's acquisition of hedges

Linguistic "hedges" like sort of or almost encode vagueness or fuzziness in category membership (Lakoff, 1973). Adults often use hedges when offering children information about categories (e.g. "A moth is sort of a butterfly, but..."). Little is known about the acquisition of hedges and their role in word learning, and yet learning about differences between members of a category is important in mapping words to their referents. This study investigates whether children are sensitive to the use of these modifiers and, if so, whether they associate hedges to non-prototypical or incomplete objects. Our results indicate that from age three children can identify the use of a hedge by another speaker, and by age five they can reliably use this information to distinguish between more and less prototypical members of a category.

In a comprehension study, 36 three to five year-old participants were presented with 12 picture sets of four images, including a prototypical object Obj1 and a competitor object Obj2. The competitor object was either an incomplete or non-prototypical category member. For example, if Obj1 was a butterfly, Obj2 was either a moth (non-prototypical) or a cocoon (incomplete/Obj to-be). Children were asked to indicate which of the four pictures best matched a “clue” given by a puppet. The critical clues were hedged with one of two frames: “It’s almost an [Obj]” or “It’s sort of an [Obj].” There were also two description frames with un-hedged labels ("It's an [Obj]", "In here there's an [Obj]").

If children understand the role of hedges, they should choose prototypical objects in response to un-hedged descriptions and incomplete/non-prototypical objects in response to hedged descriptions. There should be no distinction between the two un-hedged description frames, since they do not contribute any information pertaining to degree of category membership.

Our results show that children aged three to five are significantly more likely to choose non-prototypical objects in response to hedged frames than to un-hedged ones, especially for the older children (p<0.001). Children’s justifications of their choices often include properties associated with categories (‘It’s like a butterfly, it has wings’). Response type coding shows that hedged labels also differ from un-hedged labels in that they trigger hesitations and spontaneous justifications by the children.

Younger children are significantly more likely to choose non-prototypical objects in response to the longer un-hedged label ("In here there's an [Obj]"), suggesting that length of description is used as a cue to modification, and hence as a signal to naming a non-prototypical object. We interpret this finding in terms of a pragmatic strategy. By Grice’s maxim of Manner, from the form of the linguistic description one may infer degree of category membership: the shortest the description, the more central to the category the referent of the word is.

This study demonstrates that from age three children can identify the function of hedged labels as signalling attenuated degree of category membership. We propose that children use this knowledge about the linguistic frames used in naming events both to learn new words and to form increasingly complex category representations.