Spring 2013

Dear parents and teachers,

What a productive year we had! For the parents whose children participated in our studies, and for the teachers and staff who invited us into your classrooms, we are so grateful for your involvement. Without you, our research would not be possible. **Thank you from all of us at the Laboratory for Developmental Language Studies!** We hope this newsletter gives you a glimpse of the research we do, and how amazing your children are!

In our studies, we are interested in how children assign meaning to words and sentences. Over the course of the year, my team of dedicated, hard-working students worked with me to design a series of language studies, assemble the materials, and run these studies with bright, eager children two to six years of age. This year, we investigated whether children have access to the same range of interpretations as adults when a sentence can have more than one interpretation (because of the numerals that appear in it, or because a verb has been deleted). We asked what kind of syntactic and semantic information they use when learning a new verb. We compared the way that children acquiring English and Japanese interpreted certain comparative constructions. We also began a new project studying how Spanish-English bilingual children in New Brunswick, NJ, interpret quantifiers like *algunos* and *unos* (some) and *todos* (all).

The research that we do helps us make contributions to our understanding of child language development, but also provides Rutgers students with the opportunity to be engaged in hands-on research. Towards the end of the year, the undergraduates got to present many of their results to the greater Rutgers University community at the Aresty Undergraduate Research symposium, where they showed everyone how fun it can be to study linguistics and language acquisition, and wowed everyone with their own expertise and the learning capacity of young children reported in their findings.

**Please consider bringing your little one(s) by our lab at Rutgers in July or August!** (Siblings are welcome!) Our studies are ongoing, and new ones are popping up all the time. Email us at Rutgers.language.studies@gmail.com if you would like to participate. Children receive a small token of appreciation, and parents are given some reimbursement for travel. We’d love to have you visit!

Many thanks,
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ruccs.rutgers.edu/languagestudies/
Come learn about some of our favorite studies from this year!

When ‘two’ means ‘at least two’

There are times when ‘two’ means ‘exactly two’ – for example, when someone asked how old your child is, or how many words you spelled incorrectly on a spelling test. But there are also times when ‘two’ is allowed to mean ‘at least two.’ Over the last few years, we have been investigating how children interpret sentences with number words like ‘two’ in them to see if they allow these different interpretations, and if the interpretations vary with the linguistic environment in which the number word appears. We told four- and five-year-olds stories about friendly characters who had to meet a requirement. For example, one story involved a little frog who wanted to be like the big frogs and had to jump over two lily pads. In another, Elmo wanted to go on a Sesame Place ride and had to be 3 feet high. Children thought it was okay if the frog jumped over 3 lily pads, but wouldn’t let Elmo go on the ride, since he wasn’t 3 feet high. These results, together with our earlier studies, tell us that children are able to access ‘at least’ interpretations in a principled way. When the modal expression have to interacts with the number word two, it gives rise to a ‘two or more’ interpretation. In other studies, we have seen that children are also aware of instances when two can mean ‘at most two.’
Hey, where did that verb go?
Which verb?

Let’s say we told you a story about Jake and Captain Hook. In this story, Captain Hook finds the treasure on the right, which is easy to find, but falsely reports to Jake and his gang that he found the treasure on the left, which is hard to find. Then it’s Jake’s turn to find treasure, but we don’t see what he found. All we see is that he also claimed he found the hard treasure. Now, suppose I say, “Jake said he found every treasure that Captain Hook did.” Do you agree or disagree? If you agree, you will justify your answer by saying that they both said the same thing. If you disagree, you will probably say that Jake said he found treasure that Hook did not find. Like adults, many children can access both interpretations, but prefer the latter. This pattern tells us important things about the grammatical mechanisms at work in children’s interpretation of sentences where the verb has been elided (or deleted). The answers that our study participants give us tell us how they are interpreting the word did, and how they using the linguistic material in the rest of the sentence to assign an interpretation. There are grammatical constraints on what is or is not possible. So if four-year-olds are already doing things that adults are doing, this tells us that their grammar is already assembled in a particular way.
What does that verb mean?

We know by now from a long line of research that children use the syntactic environment in which a new verb appears to deduce something about its meaning. For example, “The girl is pimming her friend” probably means that the girls is doing some action toward her friend (the scene on the right), while “The girls and her friend are pimming” probably describes an event that is more ‘mutual’ among the agents involved, and more like the scene on the left than on the right. Interestingly, when children hear the first sentence (the ‘transitive’ version), they are likely to choose a scene like to one on the right, but when they hear the second, ‘intransitive’ frame, they look between the selections at chance. We found that the simple addition of the word together in the intransitive frame draws two- and three-year-olds’ attention to the event that is coordinated in space and time. In the scene on the left, the actors are bobbing up and down in sync. The additional semantic information encoded in the adverb, along with the syntax, appears to help children be successful. In other work, we have looked at how two-year-olds use words like slowly to do something similar with other events.
In Japanese, to say that someone is taller than someone or something else, one uses the word for *tall*. There is no ‘-er’ morpheme in a word like *taller*. This difference made us wonder how the acquisition of comparative constructions compares between English and Japanese. We collaborated with a group in Japan to run studies in both countries with children of the same age: four to six years old. We targeted a certain kind of comparatives – one with a differential phrase. For example, think of the sentence “John is 5 inches taller than Jack.” We used a novel unit of measurement (*chipanis*) so that children wouldn’t think of words they already knew, like *inch* or *foot*. In a scene like the one above, a puppet told the child that they were measuring height in *chipanis* (the stars on the tree). Children practiced doing this to get used to the new unit. In this scene, the puppet commented on how tall the rabbit was, then made a prediction about how tall a panda would be. For example, the puppet said, “I think the panda is two chipanis taller!” The child and puppet saw the panda all by itself. The panda then stood next to the rabbit, and the puppet repeated his prediction. Interestingly, both Japanese and English speaking children said yes, given the scene above! They justified their response by counting how tall the panda was. They seemed to interpret the puppet’s statement as saying the panda was “two chipanis tall” rather than “two chipanis taller.” The fact that children in both languages did the same thing tells us that they either have the same syntactic representation or go through the same interpretation strategy with the number word, wanting it to pick out an absolute height. They seem to do the same thing when we add a ‘than’ phrase ("The panda is two chipanis taller than the rabbit.")