

E-clips

Transcript for the [Video](#):

Using Math Talk with Preschoolers to Support Learning

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Dr. Jeffrey Trawick-Smith, Host: When you think of teaching math concepts to preschoolers, you may think of counting exercises or other explicit number activities. But new research from the Center for Early Childhood Education at Eastern Connecticut State University suggests that a lot of math learning occurs within the context of classroom play, especially when teachers are talking with children about how to solve problems involving number.

Teacher: Want to help me count?

Child: One, two, three, four, five.

Teacher: Five.

Dr. Sudha Swaminathan, Expert: Research has shown that number sense is very critical in preschool and children are actually developmentally tuned in to learn number sense in preschool. The more you talk about numbers to children, the more they learn numbers.

Teacher: How long do you want the tape?

Child: Forty hours.

Teacher: Forty hours? Or forty pieces?

Child: Forty pieces.

Teacher: Forty pieces? Ok, how many pieces do you have there?

Child: One.

Teacher: There's one.

Cynthia Dejesús, Teacher: I find myself trying to math talk in every center that I'm in, even at the snack table. How much more juice do you need?

Child: Lot.

Teacher: A lot more?

Child: Yeah.

Teacher: To make it equal with the water?

Child: Yeah.

Teacher: Let's see.

Cynthia Dejesús: How many children are in the block area? Is there space for you? So just casually using it throughout the day.

Teacher: Snack and THEN blocks.

Child: And then finish my picture

Teacher: That's three things!

Teacher: She said snack, THEN blocks, and THEN finish picture. She told me three things she will do today.

Dr. Jeffrey Trawick-Smith, Expert: If teachers use rich language about math or if they encourage children to kind of talk to themselves or to others about mathematics, they'll learn more concepts.

Teacher: How big do you think his house needs to be?

Child: Um, bigger than it wants to be.

Teacher: Ok.

Cynthia Dejesús: I try to engage children using math talk casually, so just modeling the language and the use of numbers: How many cuts do you need? Is it bigger; is it smaller?

Teacher: How will you know if he fits in there?

Child: He fits in there like this. He just...I just stick him in the hole.

Teacher: Alright. Does he fit? Let's try.

Teacher: Do we need to make the house a little bigger?

Child: mmm...yeah.

Dr. Jeffrey Trawick-Smith: When teachers either ask questions of children, they encourage them to talk about their mathematical thinking or how they solve mathematical problems that they also promote mathematical competence.

Dr. Sudha Swaminathan: Math communication is not actually part of the curriculum in many other cultures. There's a lot of DOING math; there's not as much TALK in math. We found communication [related to mathematics] was significantly important for children.

Child: Tape more.

Teacher: More tape? How much tape do you think you'll need? How long do you want your piece of tape?

Child: Long, long, long

Teacher: You tell me how long. You tell me when to stop.

Dr. Jeffrey Trawick-Smith: Engaging children in discussions and activities around number—whether it be counting or judging amounts or how many spaces to move in a game—those kinds of interactions are very useful for promoting math learning.

Child: Piggy!

Teacher: What number do I need to get to the pig?

Child: Um...one.

Teacher: You think one? Ok, let's see.

Child: No.

Teacher: What did I get?

Child: One, two.

Teacher: Two. Ready? Count with me.

Together: One, two.

Teacher: I DID get to the piggy!

Dr. Sudha Swaminathan: For teachers to encourage children to talk about say a wrong answer, to talk about a misconception, to talk about a failed reasoning, those are all very, very valid.

Cameron: One, two, three, four.

Cynthia: Four?

Cameron: I wanted the cow.

Cynthia: You wanted the cow? Well, you had six.

Cameron: Okay. One, two.

Cynthia Dejesús: You really can see how you can incorporate it everywhere. It becomes part of your classroom lingo and part of your classroom language.

Teacher: How many more do you need to add?

Child: One, two, three, four, five, six.