Making Sense
By Kathy Richardson

Making sense is at the heart of mathematics so must be at the heart of what we do with young children. Mathematical competence develops in children who learn that mathematics makes sense and who learn to trust their own abilities to make sense of it. Asking children to perform without understanding will interfere with their development of mathematical ideas. We often make assumptions that children are thinking what we are thinking when they perform correctly. For example, when I taught preschool, I had my children working with dot cards. I would show them cards with the same dot arrangements that we find on dice and they learned to recognize these arrangements. One day, I asked them to use counters and build what they saw on the card. To my amazement, I found they did not use the correct number of counters. Instead they made an X shape to match the shape of the five dots and they made a “squarish” shape to match the arrangement of the nine dots. I thought I was teaching them quantity but they were focused on what the card looked like. I learned from this that I must always interact with children in ways that ask them to “figure it out” and to show me what they know.

Children can say the right answer and not know what they are saying as with the dot cards. They can also give the “wrong” answer and still be pondering an important idea. Another experience comes to mind. A group of children were asked to figure out which jar held the most rice. In the set were 3 mustard jars that were the same shape but of different sizes. One of the children was convinced that they should all hold the same amount of rice. Even after pouring the rice from one jar to the other, he said, “I see it. But I don’t believe it!” The key is to get the child to think and explore rather than to stop thinking and perform.

As I worked with children over the years, I had to redefine what it meant to be a good teacher. Being a good teacher is not about getting all your children to perform at a particular level at a particular time. Being a good teacher is about knowing what your children already know and what they are still grappling with. It is valuing where each child is on their own personal journey and not comparing them to anyone else. Standards and goals give me an idea of what I must be working towards with my children. One child may be a long way from achieving a particular standard while another child may have reached this standard long ago. My job is to challenge all my children no matter if they are just figuring out how to hand me two jelly beans or if they are figuring out how to share 12 jelly beans with two people. I don’t need to be reluctant to find out what a child really knows but to be excited by the process they are engaged in.

Accepting children’s own ways of thinking actually allows us to present ideas to them in all their complexity rather than over simplifying them in order to ensure “success.” Recognizing that children can grapple with an idea before they can be expected to fully understand it allows us to challenge them in a way that we couldn’t if we expected them to always be right from the adult point of view. Many times children will surprise us at their ability to figure things out if we simply allow them to do so. However, we may be equally surprised at some of the conclusions they reach that are a natural part of the learning
process. The opportunity is here to develop mathematics programs that enhance and maximize the children’s learning rather than those that promote the kinds of learning that give the appearance of high expectations but which in reality result in inappropriate practices that interfere with the real work and growth of children.