

# Assessing & Developing Math Concepts



## Stay Connected!

*Kathy Richardson is the author and developer of the Assessing Math Concepts (AMC) series of assessments and the Developing Number Concepts (DNC) series for Kindergarten through Second Grade Mathematics. Kathy, Program Director for Math Perspectives, is one of the most respected early childhood mathematics educators. Kathy answers questions from teachers across the country who are using AMC and DNC.*

If you have questions for Kathy, please send them to Math Perspectives at [info@mathperspectives.com](mailto:info@mathperspectives.com).

## ASSESSING MATH CONCEPTS: Counting Objects

**Q** We are using Assessing Math Concepts (AMC) to support our Kindergarten curriculum. We use the online version of AMC. When I ran the Classroom Instruction report for one of the K classes this year, it showed that most students were only able to count to 12 or less. The classroom teacher said that she has several kids that can easily count to 32 so we are wondering what's going on. When we looked at the Student Detail reports for students that could count, we discovered that the reason they scored P instead of A was that when they were asked, "How many did you count?" when they were finished counting, they recounted to give the amount.

I believe that this is a different skill set than counting. If they don't realize that the last number they counted is the total amount, shouldn't they get an A for counting to 32? The teachers ended up going all the way down to 8 counters for some students before they realized that that was the total number they counted. That was a lot of counting because it dropped to 21, then 12, then 8 when the student had 1-1 correspondence, move the counters and kept track with no problem at 32.

We are wondering how to get around this problem. It appears that her kids are much lower counters than the other Kindergarten classes. - Bolton, MA

**A** Thank you for your question. I would like to explain why we want children to know how many they counted before we consider them 'Ready to Apply' and also see if we can figure out why one class had more trouble with that question than the others.

First of all, we define an A for Counting as an integration of several different aspects of counting. Children who can count any particular number of objects but do not know how many they counted do not have the understanding of counting we want them to have when we say they are 'Ready to Apply.' There is a level of counting

that I call 'Count and Land'. A child is at the 'Count and Land' stage when they go through the motions of counting each object but are thinking of it as one and another one and another one and so on until they have counted the whole pile. They are paying more attention to the act of counting than to the quantity. One way we can determine whether they are at the Count and Land stage is to ask, "How many did you count?" When they have been thinking of the quantity as they go, they usually can answer that question. If they are not thinking about the quantity, they won't know and will usually recount. This is a fairly good indicator of whether the children are thinking of the meaning of the number or not.

However, when you have a whole class that had more difficulty than the other classes, I would want to look at possible reasons for that happening. I believe some children in the class were at the Count and Land stage and likely are not sure how many they have, especially when counting large numbers like 21 or 32. But I also think some of the other children are interpreting the question as an invitation to make sure they counted right. This could be because the teacher routinely has them double check to see how many they counted at other times of the day, or she is saying the question in such a way that the children think she wants them to count again. I would suggest she work with a couple of the children that she thinks counted when they didn't need to and see if it helps if she asks another question. If a child begins counting them over again, she might interrupt them and say, "How many do you *think* you counted?" Or she might say, "Before you count again, do you have an idea of how many you counted?" One other way to double check the results is to interrupt the children while counting objects during math time and say, "How many do you have so far?" If they are thinking about the quantity as they go, they will know what they have. If they are focused on touching the counters and saying the counting sequence, they will have to start over.

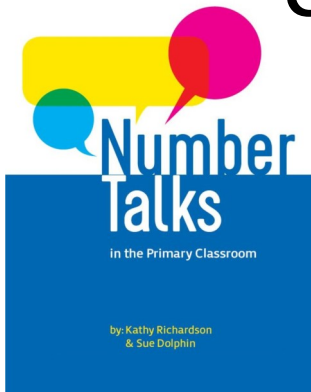
When interpreting her results, she may wish to make a list of the children who got everything correct except they recounted and use that information when reporting to parents. ~ Kathy

## NUMBER TALKS

**Q** I was in a 2nd grade classroom watching a Number Talk. The teacher asked the students to pair share and explain to their partner how they solved the problem. Afterwards, the students were asked to tell what their partner did. The kids I heard struggled to do this. Some disengaged completely. Is this a practice you recommend? - Colorado Springs, CO

**A** Sometimes teachers think they are helping their students learn to listen carefully and become familiar with different strategies if they ask the students to explain someone else's method. But this gets away from the essence of Number Talks. "Children are never asked to give up their own thinking and try out a method that does not yet have meaning for them. Their own sense-making process and search for ways to solve problems is more important to their growth in understanding than any attempts to do what other children are doing.

From *Number Talks in the Primary Classroom* by Kathy Richardson and Sue Dolphin



## Coming in 2020!

If you're interested in receiving information on scheduling a Number Talk course, or to purchase your copy of this book in advance, please email Sheryl Russell at: [Sheryl@mathperspectives.com](mailto:Sheryl@mathperspectives.com)

### ASSESSING MATH CONCEPTS: Moving from Demo Mode to Live Mode and Hiding Assessment

**Q** How do I make sure I'm on live mode? Also, If a student keeps passing each lesson, when do I stop the assessment? - *Lemon Grove, CA*

**A** When you select Start Assessment and that page opens, you can see a box in the top right corner that says Demo or Live. Then if it is not in the mode you want, you can go over the left column and select the gear icon and it will let you choose Live or Demo.

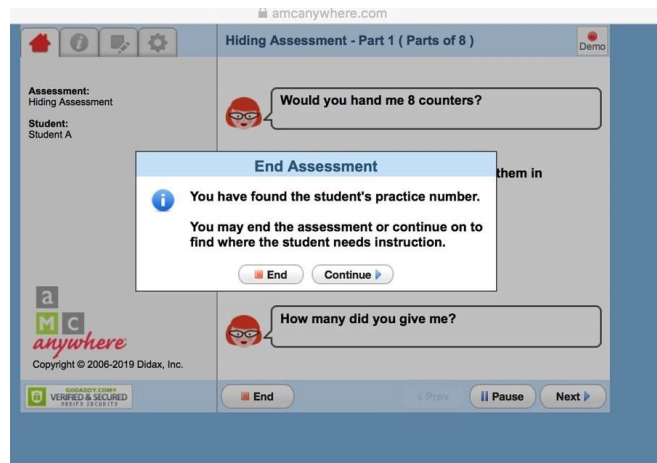
I need more information before I can tell when you can stop an assessment. Which grade level do you teach? What assessments are you giving? What part of the assessment seems too easy?

I will be glad to help if you can give me a bit more information.  
*Thank you, Kathy*

**Response** I teach first grade. The reason why I was asking is because one of my students got an instructional level of A for five counters then got P for all the rest. From what I understand the assessment should stop after two P's. Do we just end the assessment there or keep going? The AMC program had me go through five more numbers before it stopped me. It took a long time which is why am asking for your guidance.

**A** It is fairly common for first graders to get a P for a long series of numbers. This means they don't know the parts of the number

but can figure them out without counting all. What should have happened is when the child got 2 P's and you went on to the next number, a message should have popped up that suggested you end the assessment here. If you weren't expecting it or didn't understand what it was saying, you probably selected 'Continue.' You could end it any time after that, but the suggestion doesn't show up again. I am attaching what the screen shot looks like so you will recognize it if it comes up again. - *Kathy*



**Q** It's me again. I'm sorry for all the questions but this is my first time using this and I want to make sure I do it right. Another question - what if they get an I? I'm asking because I have not gotten any prompts to end the session. Thanks so much again! - *Lemon Grove, CA*

**A** The only time you will get a prompt to end the assessment is when the child has an A and 2 P's. Otherwise the program will continue to assess until there is an A and an I or it runs out of numbers. If you have found the child's A and you get an I, the program will end the assessment. If you have an I and you haven't found the child's A, it will keep going until the child gets an A or you run out of numbers.

The path the Hiding Assessment takes depends on where you start and how the children do. When you have no previous information, start with 5. Then the program can go on to higher numbers if the child gets an A and to lower numbers if the child gets a P or an I.

If you're using Assessing Math Concepts and have a question regarding any of the nine assessments, we'd love to hear from you. Please email us your question to [info@mathperspectives.com](mailto:info@mathperspectives.com).



If you are using the paper Student Interview forms and would like to receive information on the Web-based version or professional development, please contact us at [info@mathperspectives.com](mailto:info@mathperspectives.com).