Video Transcript

Time	Speaker	Script
0:06	Cathy	So in our research so far we have decided to record our top ten lessons and want to share those with you today. The first one is to use number lines and rectangles and ribbon representations. We think it is important to provide students with tasks in relevant contexts such as cutting ribbons for decorations, baking half recipes, which allows them to make connections between the model and the context.
0:34	Shelley	Using number lines, rectangles and ribbons as representations empowers students in their learning both within fractions and across grades and other content areas. Cathy is going to show us, on the number line, how we can place fractions along the number line which helps us understand that a fraction is a number. Working with a number line allows students to see that a fraction is a number and also connect that learning across different number systems, such as decimals and integers and into secondary school where they learn about radian measure.
1:13	Shelley	Our second lesson learned was to emphasize unit fractions. This includes naming unit fractions, counting by unit fractions and also helping students to understand the differences between unit fractions. Cathy, you have an example for us?
1:33	Cathy	I sure do. When I am counting these unit fractions I am saying 1 one-fifth, 2 one-fifths, 3 one-fifths, 4 one-fifths, 5 one-fifths, 6 one-fifths and it really allows me to go over the whole number easily because I am thinking about the unit fraction.
1:58		Our third lesson learned is to have students partition shapes and paper fold to make sense of equi-partitioning. Paper folding is rarely done in schools and we think we should bring that back.
2:05	Cathy	The fourth lesson learned is that we really need to be reading fractions as a number, not two numbers. The fraction represents one quantity so we need to read that as one quantity. So, rather than saying 'one over two', we talk about 'one half'. Rather than talking about 'three over four' we talk about 'three fourths'.
2:32	Cathy	The fifth lesson learned is to punctuate the instruction of fractions throughout the year and to incorporate it into other strands in your program. We found, time and again, with our teacher researcher teams, that punctuating instruction, circling back to fractions over time made a really big difference.
2:57	Cathy	The sixth lesson learned is that we need to find a common unit rather than a common denominator to help students connect to their prior knowledge of unit, including thinking about measurement and place value.
3:16	Cathy	The seventh lesson learned is to mix proper and improper fractions in tasks because it reinforces that a fraction is a number and it allows students to connect to their understanding of other numbers, including whole numbers.
3:31	Shelley	So we want to use unfamiliar fractions with students as well. We often use fractions, such as one half and one third and students

		demonstrate what appears to be understanding but asking students to represent less familiar fractions, such as four sevenths as Cathy is doing here, may expose misconceptions and will certainly tell you what they do understand about fractions content.
3:54	Cathy	So you really need to listen carefully to students, let them talk, let them show you what they understand and this will also tell you what they don't understand.
4:12	Cathy	Lesson nine is annotate fractions to help clarify the meaning of the digits. If you are describing unshaded areas of a rectangle, label the numerator as the total number of unshaded regions and the denominator as the total number of equal regions in the whole.
4:30	Cathy	And the last lesson learned that we will share with you today, although there are many more, is to ask students to explain their thinking. And we know this holds true for all of mathematics but we think it is very important for fractions because we sometimes shortcut what we are trying to say when we are describing fractions. Listen carefully to what the students tell you and that will help everybody to understand more deeply what you are talking about and what fractions you are really describing.
5:01	Shelley	And that is it. That is our top ten lessons learned list.