**Concepts**

**1. Knocking down the myths about math.**  
Math is not about speed, memorization or learning lots of rules. There is no such thing as “math people” and non-math people. Girls are equally capable of the highest achievement. This session will include interviews with students.

**2. Math and Mindset.**  
Participants will be encouraged to develop a growth mindset, they will see evidence of how mindset changes students’ learning trajectories, and learn how it can be developed.

**3. Mistakes, Challenges & Persistence.**  
What is math persistence? Why are mistakes so important? How is math linked to creativity? This session will focus on the importance of mistakes, struggles and persistence.

**4. Teaching Math for a Growth Mindset.**  
This session will give strategies to teachers and parents for helping students develop a growth mindset and will include an interview with Carol Dweck.

**5. Conceptual Learning. Part I. Number Sense.**  
Math is a conceptual subject– we will see evidence of the importance of conceptual thinking and participants will be given number problems that can be solved in many ways and represented visually.

**6. Conceptual Learning. Part II. Connections, Representations, Questions.**  
In this session we will look at and solve math problems at many different grade levels and see the difference in approaching them procedurally and conceptually. Interviews with successful users of math in different, interesting jobs (film maker, inventor of self-driving cars etc) will show the importance of conceptual math.

**7. Appreciating Algebra.**  
Participants will learn some key research findings in the teaching and learning of algebra and learn about a case of algebra teaching.

**8. Going From This Course to a New Mathematical Future.**  
This session will review the ideas of the course and think about the way towards a new mathematical future.

<https://class.stanford.edu/courses/Education/EDUC115N/How_to_Learn_Math/about>