

# Studying the Context for Improving Math Instruction

\* \* \* *Session Packet* \* \* \*

## Part I: What Have We Learned from International Studies of Math Instruction?

*Preface: We have math achievement results and pretty detailed analysis of mathematics instruction from the following countries: Australia, Czech Republic, Hong Kong, Japan, Netherlands, and the United States.*

What are your predictions?

1. Do you think math achievement varies significantly among these six countries?
2. Rank order the countries from 1-6 with 1 being the highest in terms of a common test of 8th grade mathematics achievement.

Austl.	Czech Rep	Hong Kong	Japan	Neth.	U.S
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3. Among these six countries, do you think math is taught similarly, differently or some combination of the two?
  4. In terms of math instruction (grade 8), what features do you think these six countries might all have in common (i.e., similarities among the countries)?
  5. In terms of math instruction (grade 8), what features do you think these six countries might not have in common (i.e., differences among the countries)?
  6. In terms of math instruction (grade 8), what features do you think most distinguish between higher and lower achieving countries (i.e., higher performing countries do more of it, and lower countries do less of it, or vice-versa)?

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7. Across all countries, what seems to be the strongest influence on the way math is taught?

## Part II: What Do We Know about the Current State of Math Achievement among HS Graduates?

*Preface: We have several studies of Community College students in California and throughout the United States.*

What are your predictions?

1. Are students entering Community Colleges typically prepared to take a college level math class?
2. Are students who take a developmental math class (booster, remedial) at a Community College typically successful?

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3. What are CC Developmental Math students' perceptions of mathematics, in general, and what are their perceptions of what it takes to do well in mathematics?

4. What are one or two most debilitating weaknesses that contribute to Developmental Math students' repeated lack of success in math courses?

*Preface: We have data based on "College Ready" math standards and assessments (CAASPP) from grade 11 for California's graduating class of 2016. We also have data based on previous math standards and assessments (CST) spanning grades 2-9 for that cohort of California students.*

What are your predictions?

5. What percentage of the Class of 2016 is prepared to take a college level math class? What percentage are nearly ready and likely need a Development course before taking a college level math class?

6. Do you think CST results (our previous state assessment) from grades 2-5 for this cohort would predict their 11th grade CAASPP results?

7. Do you think CST results from grades 8 and 9 for this cohort would predict their 11th grade CAASPP results?

