Equitable Instruction in Mathematics: Learning to Develop Practitioners

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Session outline

1. Overview
2. Individual presentations
   A. Secondary Mathematics Methods Courses and Equity: What Do Preservice Teachers Need to Learn? Where Can They Learn? (Carol Malloy)
   B. Increasing Awareness of Culture in a Elementary Mathematics Methods Course (Dorothy White)
   C. Enabling Mathematical Achievement: The Work of Teaching (Deborah Loewenberg Ball and Imani Masters Goffney)
3. Cross talk: What are we learning? What are the key issues and challenges?

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Overview

- The problem: Preparing teachers who can teach mathematics to all learners
- Many challenges
  - Weak effects of many past interventions
  - Difficulty in coordinating theory, personal self-examination, skills and knowledge, practice
  - Uncertainties about what to teach and how to teach it

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The urgency of the problem

- Enormous gaps in learning opportunities and disparities in achievement (within U.S. and in international comparisons)
- Rapidly changing school population
- Higher, more complex academic goals
- High expectations for all students

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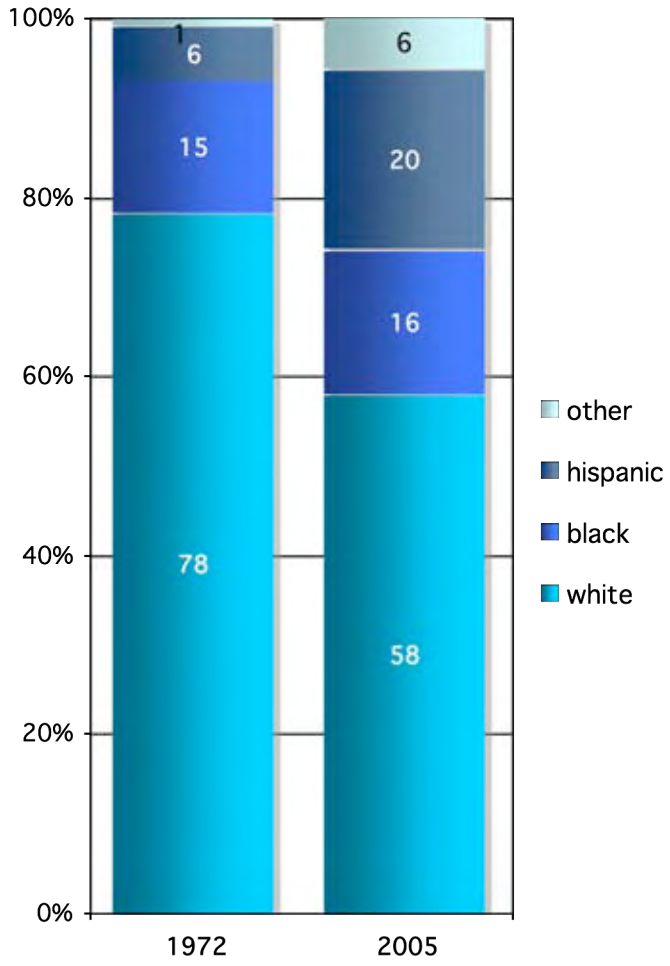
Another look

Nine year-olds growing up in low-income communities—

- are on average three grade levels behind their peers in high-income communities.
- have a 50% chance of graduating from high school.
- who graduate from high school read and do basic math at an 8th grade level.

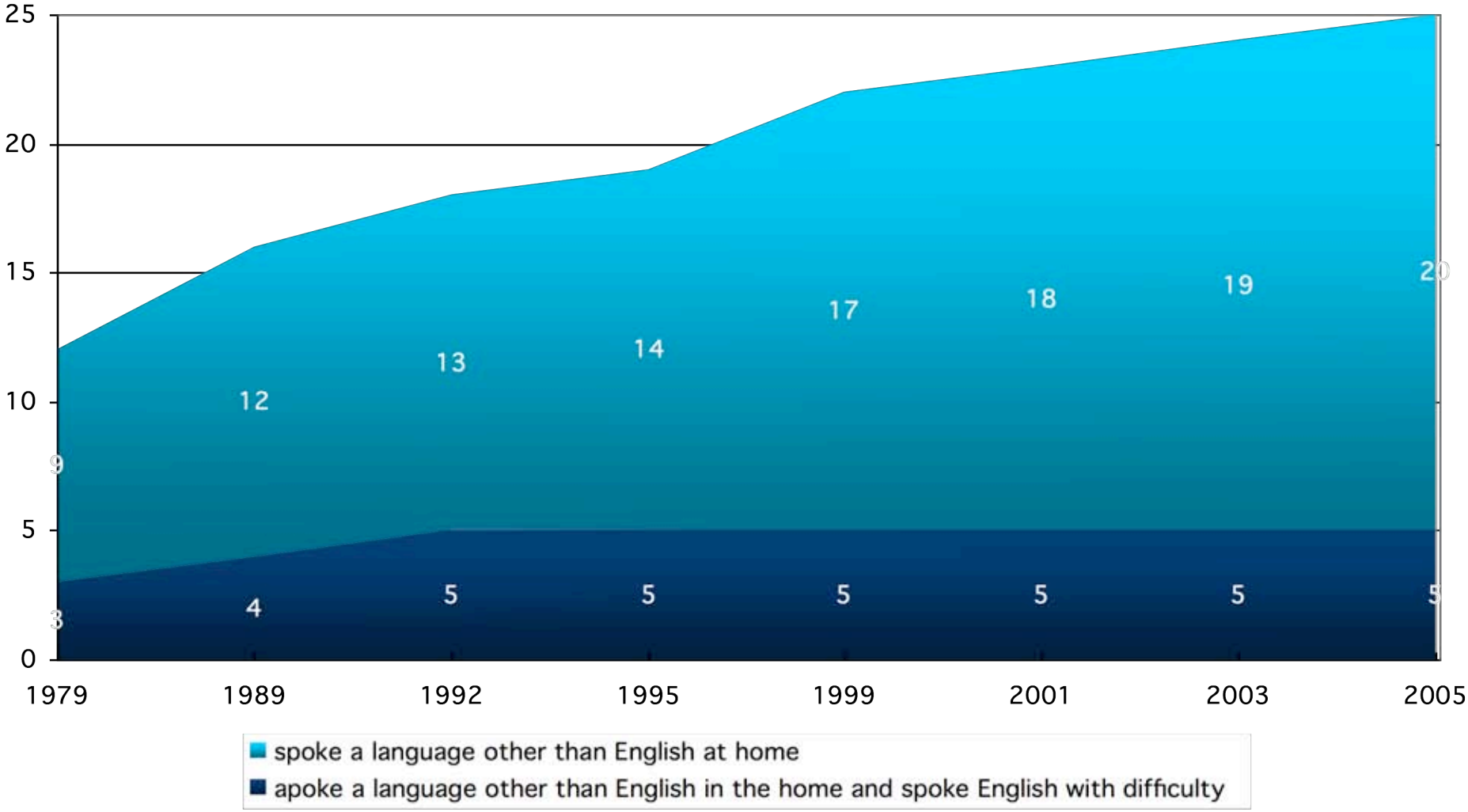
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U.S. school-age population: Changing demographics



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Pupils' home language



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Explaining —and redressing— the "achievement gaps"*

1. Structural, societal, and economic inequality; intergenerational poverty; inequities in school funding
2. Deficit theories → remediation, "compensatory" education
3. Cultural mismatches between students' resources and modal schooling

* Carol Lee (2007)

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Teachers matter — a lot

- Persistent evidence that a large proportion of the variability in student achievement gains is due to the teacher
- So one obvious strategy for improving students' opportunities and learning is to ensure that they have teachers who are able to help them learn
  - ❑ Recruitment
  - ❑ Professional training

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Our aim today

- Present multiple ways to integrate attention to equity and to mathematics in the preparation of teachers, and in practice
- Consider the demands on teachers to teach all learners, and implications for professional education
- Identify areas of progress, challenges, priorities for next steps in research and practice

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Discussion and cross-talk

- On what aspects of the problem do we think we have made some progress?
- What are the key challenges?
- Are there key areas of commonality among us? Key differences? What is the significance of these?

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