CONTENT-BASED PROFESSIONAL DEVELOPMENT FOR SECONDARY TEACHERS

SOME DESIGN PRINCIPLES

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OUTLINE

1. **SOME EXAMPLES**

2. **WHAT THESE HAVE IN COMMON**

3. **DESIGN PRINCIPLES FOR THESE PROGRAMS**
**Some Ongoing Programs**

- PROMYS for Teachers
- Focus on Mathematics
- SSTP at PCMI
- *CME Project* Implementation
FUNDAMENTAL GOALS

- To close the gap between secondary school mathematics and mathematics as a scientific discipline.
**FUNDAMENTAL GOALS**

- To close the gap between secondary school mathematics and mathematics as a scientific discipline.

- To establish communities of teachers, educators, and mathematicians—communities of mathematical practice.
Expert teachers know mathematics in several ways:
Knowledge of Mathematics for Teaching
A Taxonomy

Expert teachers know mathematics in several ways:

- They know mathematics as a scholar
- They know mathematics as an educator
- They know mathematics as a mathematician
- They know mathematics as a teacher
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- They know mathematics as an educator
- They know mathematics as a mathematician
- They know mathematics as a teacher
DESIGN PRINCIPLES
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- Experience before formality
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- Experience before formality
- Depth over Breadth
Some Examples
What These Have in Common
Design Principles for These Programs

**Design Principles**

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- Depth over Breadth
- Low threshold, high ceiling
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- Situate school mathematics in the larger landscape
**Design Principles**

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- Supported struggle
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- Core involvement of mathematicians
- Situate school mathematics in the larger landscape
- Be explicit about mathematical habits of mind
THANKS

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