



Building Educators' Understanding of Early Mathematics to Promote Students' Later Mathematics Success

Overview

This resource collection is drawn from in-person and web-based events that share strategies for teaching math to young children. The content focuses on the foundational PK – grade 2 mathematics knowledge and skills necessary for students to achieve mastery of the Common Core State Standards (CCSS) and succeed across grade levels. Descriptions of resources and suggestions for use follow.

Speakers

- » Douglas Frye Associate Professor of Education, University of Pennsylvania
- » Akihiko Takahashi Associate Professor of Elementary Math, DePaul University

Resources

1. Video (70:40 minutes)

The full webinar video features Professor Frye presenting live using a powerpoint and voiceover and three individual videos of Professor Takahashi. These three videos of Professor Takahashi can also be viewed individually. Users can activate captioned versions of the videos.

Part 1: “Using the Teaching Math to Young Children Practice Guide”: Professor Douglas Frye discusses the use and contents of the IES practice guide. (47:33 minutes)

Part 2: Planting the Seeds for CCSS-M: Professor Ashiko Takahashi shares strategies to support students' use of the mathematical practices and mastery of the CCSS-M (see details on individual segments, below). (23:07 minutes).

- i. Planting the Seeds for CCSS-M, Part 1: An Emphasis on Problem Solving (5:34 minutes)
- ii. Planting the Seeds for CCSS-M, Part 2: Four Recommendations for Addressing the Standards for Mathematical Practice (4:11 minutes)
- iii. Planting the Seeds for CCSS-M, Part 3: Thinking Mathematically through Number Composition and Decomposition (6:11 minutes)

2. Webinar and video transcripts

3. Webinar PowerPoint presentations

4. Worksheet with a hands-on activity to explore connections between early math instruction and students' later math success.

Additional Resources

This list of resources is a compilation of documents, reports, and/or websites shared via PowerPoint slides and the chat function during the webinar not mentioned above.

1. Carnegie Mellon Children's School Director Sharon Carver: Meaningful Math in Early Childhood Education: http://relsouthwest.sedl.org/bridge_events/2015-04-15_prekmath1/4.15.15_bridge_event_presentation.pdf
2. School Readiness and Later Achievement, Duncan et al., 2007 research abstract: <http://www.ncbi.nlm.nih.gov/pubmed/18020822>
3. Common Core State Standards Initiative Website, standards for K–12 math: <http://www.corestandards.org/Math>

Tips for facilitators: Using these materials for professional learning

The resources from these two events provide strong, research-based content to help educators in preschool or primary grades especially consider instructional practices to improve students' mastery of the CCSS-M. Suggestions are given below for using the materials as a whole or in part for professional learning.

1. Plan for engagement with these resources by developing some questions or a problem of practice regarding math instruction, professional development, or data use in your school or district. This will ensure that your use of the materials is targeted, strategic, and mindful of participants' time.
2. Select key resources and develop professional learning opportunities that respond to your focus or problem of practice. Some suggestions follow:
 - i. Develop sessions to unpack the IES Teaching Math to Young Children Practice Guide. Utilize the guide as well as the first half of the archived webinar with Professor Frye or the video in the Additional Resources with Professor Carver, another guide author, to consider how the recommendations can be used in your context.
 - ii. View the full webinar with question prompts related to your problem of practice.
 - iii. Use the video clips of Professor Takahashi's presentation relevant to your problem of practice. Consider, for example, application at different grade levels or different student groups (e.g., English learner students). Locate classroom video examples of these strategies in use to reflect on as a team.
 - iv. Use the hands-on activity worksheet to consider how skills need to build across grade levels. Have manipulatives available to model how solving the problem might be done with students.

These resources can be reproduced for educational purposes. Please cite as follows: Frye, D., & Takahashi, A. (2015, October 22). *Building educators' understanding of early mathematics to promote students' later mathematics success [Webinar]*. Retrieved from: <https://relwest.wested.org/events/327>