

Featured Professional Development: Adult Numeracy Project

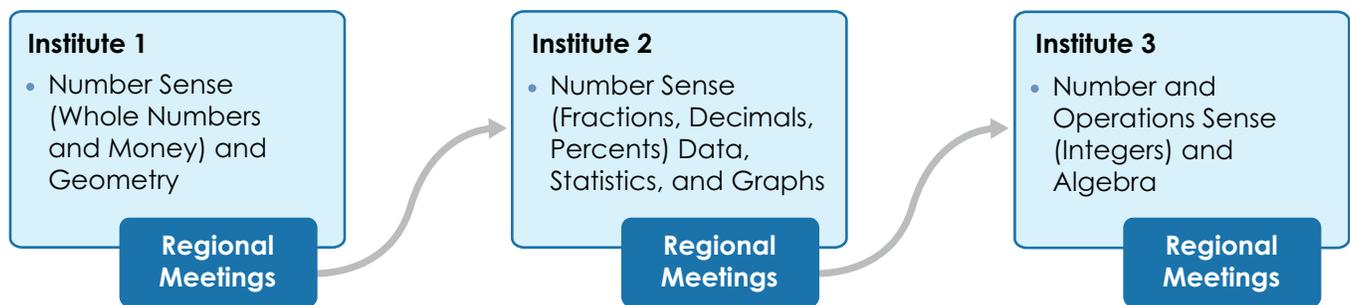
The four LINCS Regional Professional Development Centers offer the Adult Numeracy Instruction – Professional Development training (ANI-PD), an intensive evidence-based program in effective numeracy instruction for adults.

The ANI-PD model is built upon the principle that teacher preparation for adult mathematics instruction must be sufficiently intensive and focused on providing instructors with a strong base of mathematics content and pedagogical knowledge.

The training is grounded in the analysis of adult mathematical instruction outlined in the report, *Building on Foundations for Success: Guidelines for Improving Adult Mathematics Instruction*.¹

ANI-PD Goals:

- Increase math content knowledge among teachers and program administrators.
- Increase instructional skills among teachers working with ABE, pre-GED, and GED students.
- Increase knowledge and use of math content standards.
- Build local program and state capacity to support adult numeracy instruction.



The ANI-PD Model

The model of a series of three, two-day Institutes, spaced with time in between for teachers to practice their new understandings and reflect with colleagues, establishes a focus on four strategic instructional practices:

- **Connections** among mathematical ideas and recognizing and applying mathematics in contexts outside of mathematics.
- **Communication** of mathematical thinking, analyzing and evaluating the thinking and strategies of others, and attending to precision.
- **Mathematical proficiency** that includes conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and a productive disposition.
- **All content strands at all levels**, which involves incorporating increasingly sophisticated concepts of number sense; geometry; data, statistics, and graphs; and algebra at each level of math instruction.

It is imperative that there is involvement by program administrators and support by state leadership. Institute participants should be teaching math so that they can apply and practice their new knowledge. Participants should be recruited in pairs or in small groups from programs. Program administrators must commit to participate in the Institutes and regional meetings to facilitate implementation.

¹ <http://lincs.ed.gov/publications/pdf/AdultNumeracyReportFinal2011.pdf>

ANI Project Background

Mathematics instruction for adults should enable adults to build their mathematics skills so that they can succeed in the workforce, advance in their careers, and participate fully as citizens. Those who teach mathematics in adult education may lack the appropriate credentials and expertise, or may be less than comfortable in offering mathematical instruction. Recognizing the paucity of research available on adult numeracy instruction, the Office of Vocational and Adult Education (OVAE), in collaboration with MPR Associates, Inc. and a team of adult numeracy experts from the Center for Literacy Studies at the University of Tennessee, Rutgers University, and TERC, initiated the *Strengthening America's Competitiveness Through Adult Math Instruction* project.

The project was designed to determine (1) what to teach in adult numeracy instruction, (2) how to teach it, and (3) how to teach teachers to teach it.

Guided by subject matter experts in the fields of mathematics education and mathematical cognition and learning, the team analyzed *Foundations for Success: The National Mathematics Advisory Panel Final Report* (the NMAP report), to determine its applicability to adult education. This analysis, along with a review of research on adult education, adult mathematics instruction, and numeracy education, became the foundation for the *Guidelines* report, which summarized the evidence-based principles for adult numeracy instruction.

The project applied principles in the *Guidelines* and effective professional development to establish the ANI-PD model and field test the model and materials. The demonstrated results in the text box to the right are from two states, Arkansas and Georgia, which participated in the field-testing in 2010-2011.

Establishing the Need for Adult Numeracy Instruction in Adult Education—the Data:

National Assessment of Adult Literacy (NAAL, 2003), Scoring at lowest 2 levels (Below Basic and Basic)

- Prose Literacy: 43%
- Document Literacy: 34%
- **Quantitative Literacy: 55%**

Adult Education Program Study (2002), Scoring at lowest 2 levels (Below Basic and Basic)

- Prose Literacy: 84%
- Document Literacy: 82%
- **Numeracy: 92%**

ANI-PD: Demonstrated Results

- Increase in teachers' math content knowledge in all math strands.
- Increase in teachers' comfort with math content.
- Improvements in teachers' instructional practice.
- Changes in teachers' attitudes about instruction as well as their instructional practice.
- Increase in teachers' knowledge and use of state math content standards.

Contact your LINC'S RPDC Director to inquire about ANI-PD training. The LINC'S Project Directors will work with states to share the costs of the Institutes. As an estimate, LINC'S will cover the cost of bringing the expert trainers to the Institutes and distance coaching during regional meetings. States are requested to coordinate logistics and support material costs.

For more information: http://lincs.ed.gov/lincs/regionalresources/regional_centers.html

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