

About TIAN

TIAN is a model for standards-based mathematics in-service professional development for adult basic education teachers. The model uses teacher inquiry and reflective learning to engage teachers in learning how to implement purposeful and effective standards-based mathematics instructional approaches to algebra and data analysis. The components of the model include three intensive two-day institutes, using materials developed at TERC under a previous NSF grant ([EMPower](#)), local between-institute meetings, a website, and close coordination with the state's ABE office and staff development resource center. For example, in Massachusetts, TIAN was developed with a team from the MA Department of Education and [SABES](#), the state literacy resource center. In Ohio, the Ohio Department of Education and OLRC were the collaborators.

Focus on Teacher and Student Mathematical Understandings

Improvement in teachers' practices requires a greater understanding of mathematics content. Recently, some have made the case for pedagogical content knowledge; that is, it is important that what the mathematics teachers learn is intimately connected to the mathematics they are teaching to their students (Ball & Bass, 2000; MA 1999). Two processes for teacher change that have been shown to be effective in mathematics education will play a central role in the professional development model (Ball, 2000; Ball, 2003). The first is the opportunity for teachers to do mathematics themselves where the emphasis is on learning with understanding. Thus, institutes and teacher meetings were structured in ways that asked teachers to be learners. The second is the opportunity to conduct close examination and discussion of student work. Regular teacher meetings and postings to a discussion board provided vehicles for this examination and discussion.

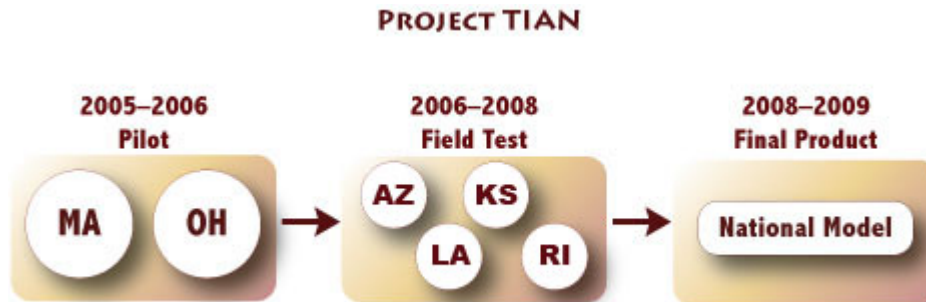
Pedagogical Goals of TIAN

- Work collaboratively on open-ended investigations
- Share strategies and understandings orally and in writing
- Justify answers in multiple ways
- Use contexts that are meaningful to adults
- Encourage various ways for entering and solving problems

Project Background

TIAN began as a four-year project funded by the [National Science Foundation](#). The project was a collaboration between the [Center for Literacy Studies](#) at the University of Tennessee at Knoxville and the Adult Numeracy Center at [TERC](#), a non-profit educational organization in Cambridge, MA.

In 2005, the Center for Literacy Studies received a grant from the National Science Foundation's Teacher Professional Continuum program (NSF_ESI-0455610). This project, conducted in collaboration with TERC, developed, piloted, and field-tested a model for standards-based mathematics in-service professional development for adult basic education teachers. The model uses teacher inquiry and reflective learning to engage teachers in learning how to implement purposeful and effective standards-based mathematics instructional approaches to algebra and data analysis. Massachusetts and Ohio pilot-tested the model in 2005–2006, and it was field-tested in four additional states in 2006–2008.



[Read highlights from the final evaluation report](#)