

Mathematics and Languages Resources from 2010 TESOL Convention Session
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Session Title: Communication, Language and Reasoning in Mathematics for English Language Learning Students: A TESOL/NCTM Colloquium at the TESOL National Convention, March 25, 2010 in Boston. Speakers: Henry S. Kepner, President NCTM and Professor of Mathematics Education, University of Wisconsin-Milwaukee and the Milwaukee Public Schools; Suznne Irujo, Professor Emerita of Education, Boston University and co-author of *The Academic Language Notebooks: The Language of Math*; Linda Gerena, Associate Professor of Teacher Education, The City University of New York and member of a Math/Science Partnership in NYC funded by the National Science Foundation; Eleanor Linn, Senior Association Director Emerita of the Programs for Educational Opportunity, School of Education, University of Michigan and Founding member of TODOS: Mathematics for All, and of the Mathematics in TESOL independent forum.

Session Abstract: In order to achieve academic success in mathematics, English language learning students, like their English dominant peers, must be able to use the language of mathematics to communicate core concepts and reason mathematically. Presenters from NCTM and TESOL will discuss current standards for mathematics and cognitive academic language development and connect them to examples of effective classroom practice with K-16 English language learners.

Learning to make meaning in mathematics involves being actively engaged in a lively community of speakers by speaking with colleagues and networking in a professional organization.

Major Organizations

1. Mathematics Teaching and Learning Independent Forum in TESOL, aka Mathematics in TESOL is “a forum of educators interested in the effects of language acquisition, instructional strategies, and culture in the teaching and learning of mathematics concepts.” We have an academic session on using children’s literature to help ELLs write their own word problems Friday, March 26 at 10 a.m. and an informal social event Friday evening. Our listserv often has conversation of interest about particular problems that teachers encounter in the classroom. Sign up by emailing <elinn@umich.edu>
2. TODOS: Mathematics for All <www.todos-math.org> is a national affiliate of the National Council of Teachers of Mathematics with a mission of “advocating for an equitable and high quality mathematics education for all students, in particular Latino/Hispanic students, by advancing the professional growth and equity awareness of educators.” It has a well-developed website with sources of rich problems (often in several languages), story books, research bibliography, curriculum materials, algorithms and notation used in other countries, a research journal with articles on communicating mathematically, a listserv and several online chat groups (free to members, \$25/yr membership, less for preservice teachers).
3. National Council of Teachers of Mathematics <www.nctm.org> is “the public voice of mathematics education” supporting teachers through “vision, leadership, professional development and research.” The website provides access to many excellent publications,

grade level band journals, conferences with special ELL related strands. Good search terms are “reasoning,” “English language learners,” and “equity diversity.”

4. CEMELA, Center for the Mathematics Education of Latinos/as math.arizona.edu/~cemela is an interdisciplinary, multi-university consortium focused on the research and practice of the teaching and learning of mathematics with Latino students in the United States. They provide professional development, preservice teacher education, and family engagement through lesson study, study groups, and summer institutes. The website has course syllabi, especially for classes for pre-service teachers.

Specific Titles

5. Irujo, Suzanne and Alex Ragan (2007). *Academic Language Notebooks: The Language of Math (Grades 3-5)*. Course Crafters Publishing and Perfection Learning. Supplementary materials that teach the academic language of mathematics to ELLs and other struggling students.
6. Coggins, Debra et al (2007). *English Language Learners in the Mathematics Classroom*. Corwin Press. Very readable, useful material for classroom teachers.
7. Chapin, Suzanne et al (2009). *Classroom Discussions: Using Math Talk to Help Students Learn*. Math Solutions. Excellent scenarios to help teachers get a sense of what good mathematics talk sounds like in the classroom.
8. Carr, John et al (2009). *Making Mathematics Accessible to English Learners: A Guidebook for Teachers (Grades 6-12)*. WestEd. An integrated approach to teaching math content and English language skills with examples of strategies, tools, rubrics, and assessment techniques.
9. Barnett-Clarke, Carne and Alma Ramirez (2009). *Math Pathways and Pitfalls*. West Ed. A professional development series (related to the book above) meant for teachers with intervention lessons for them to do with their students to help students be more aware of common reasoning and language misconceptions in thinking mathematically. www.wested.org