Other projects

ASU

Understanding Teaching

Understanding Teaching (UT) is an interactive, professional development seminar on four CD-ROMs that models the NCTM's Professional Standards for Teaching Mathematics in a real world instructional environment. Understanding Teaching has received the 1995 New Media Silver Invision Award and the ITVA 28th Annual Video Festival Bronze Reel Award.

· Video episodes of elementary mathematics teachers and students
· Expert audio commentary
· Interactive notebook
· 3-D graphics and animation
· Assessment component
· Research-demonstrated effectiveness

NEW MEDIA INVISION AWARDS 1995 SILVER WINNER

For more information, see: http://tblr.ed.asu.edu/ut.html

Instructional Media Design

Instructional Media Design Multimedia Course was developed by TBL&R and the Educational Media and Computers Program at Arizona State University in partnership with Intel Corporation.

NEW MEDIA INVISION MULTIMEDIA AWARDS 1994 FINALIST

· The world's first "for credit" multimedia instructional design, graduate-level course on CD-ROM
· Users are introduced to various forms of media and media design through the use of text, audio, video, graphics and animation
· Users gain experience in producing solutions to real-world instructional design problems
· Interactive, self-guided course

For more information, see: http://tblr.ed.asu.edu/imd.html

Hispanic Math Project

This tutorial teaches measurement with an exciting, theme-based, animated-graphic format. Each lesson is a separate mission in which two animated "characters" from outer space ask the user's help to learn the mathematics of measurement on Earth. The animated characters "interact" with live actors in the video and with the user.

· Fully bilingual throughout - choose English or Spanish as a language
· Lessons on arbitrary units, scaling, perimeter, area, volume, money, and time
· Runs on IBM or Mac platforms
· Useful in elementary and adult basic education
· Research-demonstrated effectiveness
· Minimal text enables use by non-readers
· Linear program is user-friendly for computer novices

For more information, see: http://tblr.ed.asu.edu/hmp.html
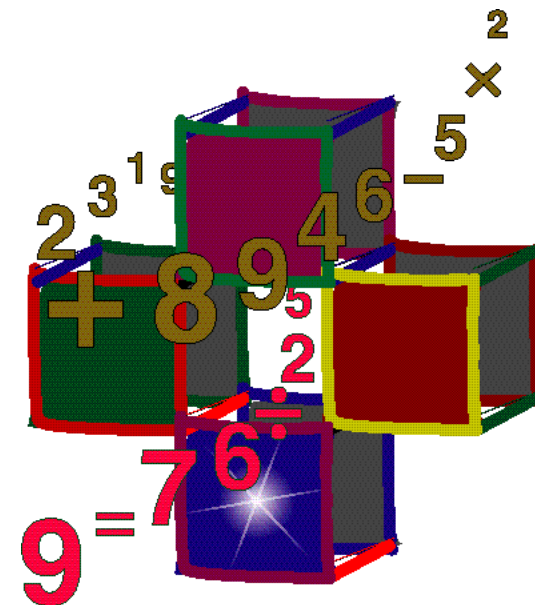
Research Projects

In addition to the research necessary for effective software development, TBL&R also conducts studies for external organizations. Recent studies include:

· Evaluation of IBM's National 140-site, Technology Grant Program, for International Business Machines
· Needs Assessment of Arizona Math and Science Education K-12, for Eisenhower Mathematics and Science Grant Program
· Study of "Writer's Solution: An Interactive Media Program," for Prentice Hall

For more information, see: http://tblr.ed.asu.edu/pryor/

math•ed•ology™ \math-ˌəd-ˈäl-ə-jē\ *n* [ISV] (1996) : **1** : a set of educational multimedia CD-ROMs intended to help teachers increase mathematics achievement in elementary students (with added emphasis on Hispanic students) **2** : the interactive study of the NCTM's *Professional Standards for Teaching Mathematics*

TBL&R
Technology Based Learning and Research
Community Services Building
200 East Curry Road
PO Box 870908
Tempe, AZ 85287-0908
Phone: (602) 965-3322
Fax: (602) 965-8887

TBL&R
Technology Based Learning and Research

Dr. Gary G. Bitter, Principal Investigator

Innovative Interactive Multimedia Programs for the Professional Development of Teachers

http://tblr.ed.asu.edu/projects.html
e-mail: info@tblr.ed.asu.edu

math·ed·ology ™

Background

Technology Based Learning and Research (TBL&R) is a research and development unit founded by Dr. Gary G. Bitter, the coordinator of Arizona State University's Educational Media and Computers Program. The mission of TBL&R is to develop cutting-edge instructional technology, and conduct evaluation and related research. Funding for the projects has been provided by the National Science Foundation, the U.S. Department of Education, and major corporations such as Intel, IBM, Texas Instruments, and Apple.

The Teaching Math Methods Using Interactive Videodisc (TMMUIV) project developed the program Understanding Teaching to help preservice teachers understand the National Council of Teachers of Mathematics (NCTM) Professional Standards for Teaching Mathematics. Research found the program effective for training both preservice teachers (Bitter & Hatfield, 1993; Clark, 1995) and inservice teachers (Charles, 1996). This work became the template for the Math Discourse Project which is developing the **math·ed·ology** program to focus on the three NCTM professional standards on discourse.

Purpose

math·ed·ology is funded by the National Science Foundation to improve the mathematical discourse abilities of elementary teachers, with added emphasis on those who teach Hispanic students of limited English proficiency. This professional development program is based on a digital library of classroom video depicting elementary teachers teaching mathematical concepts using the NTCM's professional standards on discourse. Users can search the video database by language, specific discourse or curriculum standard, and other considerations. An assessment component enables users to assess their own learning and allows district personnel to determine appropriate inservice credit.

Teaching standards addressed:

· Teacher's role in discourse

· Students' role in discourse

· Tools for enhancing discourse

Curriculum standards addressed:

· Number sense and numeration

· Concepts of whole number operations

· Whole number computation

· Geometry and spatial sense

Program Features

The **math·ed·ology** program includes:

· Video episodes of elementary mathematics teachers modeling the NCTM professional standards on discourse

· Expert commentary

· Content based on the NCTM Curriculum and Evaluation Standards

· User assessment

· Interactive notebook

· Bilingual and ESL methodologies

· Animations of mathematical concepts

· Collaborative peer learning

· World Wide Web support

The program provides professional development opportunities for teachers and administrators. Possible methods of use include:

· Individual tutorials

· Collaborative group study

· District inservice credit

· Career ladder programs

· University classrooms

· New teacher orientations