Great Resources to Support Standards-Based Mathematics Instruction

Book Study Resources

Fosnot, C. T. & Dolk, M. (2001). Young mathematicians at work: Constructing number sense, addition and subtraction. Heinemann. ISBN-10: 032500353X. This book describes what a standards-based mathematics classroom looks like, and how to establish that while teaching number sense, addition, and subtraction.

Fosnot, C. T. & Dolk, M. (2001). Young mathematicians at work: Constructing multiplication and division. Heinemann. ISBN-10: 0325003548. This book describes what a standards-based mathematics classroom looks like, and how to establish that while teaching multiplication and division.

Schifter, D. (2003). Teaching Problems and Problems of Teaching. ISBN-10: 0300099479. This book provides narratives from teachers as they try to implement standards-based mathematics instruction.

Places to Find High-level Tasks

Balanced Assessment in Mathematics (no date). http://balancedassessment.concord.org/. Free. A repository of mathematical tasks that include warm-up problems, tasks and guidelines for rubrics to score student work samples. Suggested use: Resource with problems to pose to students.

Heinemann (no date). http://www.heinemann.com/math/. Username- mathitems. Password- ugamath. Free. A set of mathematical tasks that are open-ended. Suggested use: Resource with problems to pose to students.

Intermath. http://intermath.coe.uga.edu A website with over 700 tasks across all concept areas, and a comprehensive dictionary with mathematical terms.

Lilburn, P. & Sullivan, P. (2002). Good questions for mathematics teaching. Math Solutions Press. ISBN 10: 0941355519. http://www.mathsolutions.com/index.cfm?page=wp18&crid=97&mcrid=107&contentid=131. $16.95- new. A book that gives examples of open-ended math problems. The book also describes the process of taking traditional problems and making them open-ended.

Resources about Teaching Practices

Ashlock, R.B. (2006). *Error Patterns in Computation (9th ed.).* Prentice Hall. ISBN 10: 0131198866. http://www.pearsonhighered.com/educator/academic/product/0,3110,0131198866,00.html. $27- new. A book that describes how to address various error patterns in computation through the use of manipulatives and instructional strategies. Suggested uses: Book study or resource to help struggling students.

Richardson, K. (1998). Developing Number Concepts Series. Three books. http://plgcatalog.pearson.com/program_single.cfm?site_id=2&program_id=333&searchType=All&searchTerm=kathy%20richardson. New- $33.50 per book. An invaluable resource with activities and suggestions for teaching math in a standards-based manner.

Van de Walle, J. (2003). *Elementary and Middle School Mathematics: Teaching Developmentally (5th ed.)*. Allyn & Bacon. ISBN 10: 020538689X.

Drew Polly, Ph.D., 2009
http://elemath.pbworks.com

http://www.pearsonhighered.com/educator/academic/product/0,3110,020538689X,00.html. $107-new. Used copies available on amazon.com. This book is the most widely sold book on elementary mathematics. It has chapters on the philosophy of standards-based mathematics instruction, teaching through problem solving, reconciling teaching concepts versus skills-based approaches. Further, the text has activities and tasks that are problem-based and involve manipulatives that teachers can adapt for their classroom. Suggested uses: Resource for teachers and schools for tasks, book study on the early chapters on the philosophy of math instruction.

Resources with Free Internet-based manipulatives

National Library of Virtual Manipulatives. http://nlvm.usu.edu/ A website with free online resources for all mathematics concepts from Grades K-12.

NCTM Illuminations. http://illuminations.nctm.org A website with free online resources for all mathematics concepts from Grades K-12.

Technology Integration in Mathematics (no date). http://lpsl.coe.uga.edu/mile3/tim/. A website with links to free math activities on the Internet. All of them have been screened to avoid drill and practice and skills-only types of activities.