



Justification and Growing Understanding of Algebraic Reasoning



**TEACHERS
DEVELOPMENT GROUP**

A non-profit organization dedicated to improving all students' mathematical understanding and achievement through meaningful, effective professional development

ABOUT THIS ONLINE WORKSHOP

In this course participants will explore justification in the middle grades. This includes creating justifications, making sense of justifications, and teaching with an eye towards incorporating justification. We do this collaboratively as participants examine student-produced justifications, justify answers to math problems, and design justification-responsive lesson plans. This course is broken into 4 units:

- Exploring what constitutes justification
- Examining an argument
- Creating and analyzing justifications
- Using student justifications

In the beginning of the course we focus mainly on what justification is and in the second part of the course we focus on teaching with an eye towards justification.

PARTICIPANTS

Middle school teachers and high school Pre-Algebra and Algebra I teachers, math coaches, curriculum and professional development specialists, special educators, and instructional assistants. Participation by school or district teams is encouraged. To complement the online work, teams may wish to meet face-to-face to explore math tasks, readings, and/or assignments.

QUESTIONS

Contact Julie Fredericks
Email, julie.fredericks@teachersdg.org
Local Phone, 503-650-1914
Toll-free, 877-650-1914

INSTRUCTORS

JULIE FREDERICKS and **JOANNA BARTLO**

Julie Fredericks is the Coordinator of Online Professional Development and Math Collaboratives for Teachers Development Group. She earned her Ph.D. in mathematics from Oregon State University and has over 10 years of teaching experience at John Carroll University, Linfield College, and Portland State University where she worked with pre-service and in-service K-12 mathematics teachers. Joanna Bartlo has 10 years of teaching experience at the middle school and university levels. While at Portland State University she has worked with pre-service and in-service K-12 mathematics teachers through a variety of different projects and courses.

DATES

June 23 - August 17, 2010

OPTIONAL UNIVERSITY CREDIT

Mth 810, Portland State University, 3 quarter-hours graduate credit. Pay \$165 for optional PSU credit at first workshop session.

COST AND REGISTRATION

\$300 per person if registration received on or before June 9, 2010.

\$350 per person for registrations received after June 9, 2010.

Register online, www.teachersdg.org, prior to June 23, 2010

Cancellations: If you must cancel, a substitute is welcomed. Otherwise, \$50 is nonrefundable; all additional payments are fully refundable prior to the workshop start date, non refundable thereafter.

