

Developing Proportional Reasoning: Understanding and Strategies for Teaching Grades: 3-9

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Course Description:

Developing Proportional Reasoning: Understanding and Strategies for Teaching, will focus on current research to enhance teacher understanding of proportional reasoning and strategies for improving proportional reasoning in students. Proportional reasoning is and has been a poorly understood and defined term that gets loosely applied to fractions. This course will further the understanding of what proportional reasoning is and is not, while developing strategies to enhance instruction and student attainment of proportional reasoning. Participants in the course will work to develop deeper understanding of proportional reasoning through analysis of the imbedded concepts and misconceptions related to proportional reasoning. Participants will reflect on their current instructional strategies and choices that support development of proportional reasoning or that allow for misconceptions to develop. Participants will use resources to create a proportional reasoning unit and pre/post assessment which they can bring back to their classrooms.

Course Objectives:

Teachers will:

- Understand and identify different components of and levels of proportional reasoning;
- Build a collection of classroom tasks to use to develop student's conceptual understanding of proportionality;
- Analyze instructional tools and models for developing proportional reasoning effectively while minimizing misconceptions;
- Develop skills and tools for analyzing students' thinking about proportionality;
- Apply these skills and tools to their lesson planning;
- Develop a pre/post-assessments linked to lessons for proportional reasoning;
- And, Develop a unit of study that emphasizes proportional reasoning and current best practices;

PARTICIPANTS Must buy the Course Materials before the course begins

Required Course Materials:

Lamon, Susan J., Teaching Fractions and Ratios for Understanding: Essential Content Knowledge and Instructional Strategies for Teachers (Second Edition), Lawrence Erlbaum Associates, 2005.

Dates:

July 27 - 31, 2009

Location:

LAPDA Meeting Space,
Montpelier, VT

Cost:

\$630 for members
\$775 for nonmembers
Additional \$225 for 3
Graduate Credits from Saint
Michael's College

Please see below left for
required Reading

Registration:

www.lapdavn.org

Call (802) 224-9110
for more information

ABOUT THE INSTRUCTOR:

TODD DARROW IS A MATHEMATICS TEACHER LEADER FOR THE MORRISTOWN SCHOOL DISTRICT. HE HAS A B.S. IN MATHEMATICS AND SECONDARY EDUCATION, AS WELL AS A M.A. IN MIDDLE LEVEL EDUCATION. TODD HAS BEEN A MATHEMATICS TEACHER FOR 14 YEARS, SPENDING THE LAST 4 YEARS IN THE TEACHER LEADER ROLE AND AS AN INSTRUCTOR OF COLLEGE ALGEBRA AT COMMUNITY COLLEGE OF VERMONT. DURING THIS TIME, TODD'S FOCUS HAS TARGETED TEACHING MATHEMATICS FOR UNDERSTANDING AT THE K-8 LEVEL, ENGAGING WITH EMERGING RESEARCH ON COGNITIVE DEVELOPMENT OF MATHEMATICAL CONCEPTS AND SKILLS, AND SUPPORTING COLLEAGUES WITH THE IMPLEMENTATION OF RESEARCH AND THEORY INTO PRACTICE.