Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Using Student Reasoning in Mathematics Instruction KAREN MARRONGELLE, Portland State University — Using student thinking and understanding as a basis for the development of mathematical ideas in the classroom is a challenging and often overwhelming task. In this session, I will report on two instructional tools, generative alternatives and record-of/tool-for mathematics and physics teachers can use to build on students' thinking and reasoning to develop mathematical concepts and processes. The instructional tools are rooted in the theory of Realistic Mathematics Education. Examples are drawn from a first course in undergraduate differential equations. The examples will illustrate ways in which a teacher can navigate the all-telling – all-discovery continuum through the use of the generative alternative and record-of/tool-for tools.

Karen Marrongelle
Portland State University

Date submitted: 09 Dec 2009 Electronic form version 1.4