

SCIENCE EDUCATION

CONTENIDO

VOLUME 94 No. 1, JANUARY 2010

CONTENTS

- 1 **Motivation, Learning, and Transformative Experience:** A Study of Deep Engagement in Science.
Kevin J. Pugh, Lisa Linnenbrink-Garcia, Kristin L. K. Koskey, Victoria C. Stewart, and Christine Mansey.
Published Online 15 April 2009

Learning Maria Varelas and Michael Ford, Section Coeditors.

- 29 **The Scientific Method and Scientific Inquiry:** Tensions in Teaching and Learning.
Xiaowei Tang, Janet E. Coffey, Andy Elby, and Daniel M. Levin.
Published Online 7 October 2009

- 48 **Meaning Making Through Multiple Modalities in a Biology Classroom:** A Multimodal Semiotics Discourse Analysis.
Kamini Jaipal.
Published Online 16 June 2009

- 73 **The Impact of Designing and Evaluating Molecular Animations on How Well Middle School Students Understand the Particulate Nature of Matter.**
Hsin-Yi Chang, Chris Quintana, and Joseph S. Krajcik.
Published Online 27 July 2009

SCIENCE LEARNING IN EVERYDAY LIFE Lynn D. Dierking and John H. Falk, Section Coeditors

- 95 **Exploring a School-Aquarium Collaboration:** An Intersection of Communities of Practice.
James F. Kisiel.
Published Online 6 April 2009

- 122 **Learning on Zoo Field Trips:** The Interaction of the Agendas and Practices of Students, Teachers, and Zoo Educators.
Susan Kay Davidson, Cynthia Passmore, and David Anderson.
Published Online 13 May 2009

SCIENCE TEACHER EDUCATION

Julie A. Bianchini and Mark Windschitl, Section Coeditors.

142 **Structures and Improvisation for Inquiry-Based Science Instruction:** A Teacher's Adaptation of a Model of Magnetism Activity.
Danielle Boyd Harlow.
Published Online 27 May 2009

164 **The Role of Induction in Learning to Teach Toward Equity:** A Study of Beginning Science and Mathematics Teachers.
Julie A. Bianchini and Mary E. Brenner.
Published Online 22 April 2009

THE BOOKS Noah Feinstein and John L. Rudolph, Section Coeditors

196 **Collaborative Action Research:** Developing Professional Learning Communities.
Marjorie Bullitt Bequette.
Published Online 11 September 2009

198 **Swimming Against the Tide:** African American Girls and Science Education.
Edna Tan.
Published Online 24 August 2009

201 Erratum
Published Online 4 December 2009