

April 4, 2019 Focus on Energy Receives Research Worth Reading Award

Model-based reasoning about energy: A fourth-grade case study, written by the Focus on Energy team of Sara Lacy, Sally Crissman, Nick Haddad, and Roger Tobin, was one of three papers to win an **NSTA Annual Research Worth Reading** award from the National Association for Research in Science Teaching published in the *Journal of Research on Science Teaching* (JRST). This award is given to three research groups whose 2018 JRST articles inspire excellent teaching innovations and are likely to have a strong impact on classroom practice.

NARST sponsored a session on April 3, 2019 at its annual international conference in Baltimore MD. Roger Tobin and Sara Lacy were on hand to receive the award.

Another example of TERC impact!

Tobin, R.G, Lacy, S., Crissman, S. and Haddad, N. (2018). Model-Based Reasoning About Energy: A Fourth-Grade Case Study. *Journal of Research in Science Teaching*, 55(8)1134-1161.

Article abstract

We report a case study of modelbased reasoning in which a small group of fourthgrade students analyzes the energy flow when a solar panel is used to power an electric motor that spins a propeller. In developing their explanation of energy flow, the students draw on a general model of energy developed collectively by their class in the course of an experimental classroom curriculum led by a trained teacher. They also construct a modelbased representation of the specific system under study. Their investigation and reasoning process exhibit all the features of authentic scientific modelbased inquiry, including the revision of their models to incorporate new information. In the course of their work the students recruit and seamlessly integrate nearly all of the practices of science designated in the Next Generation Science Standards. This case study provides an example of what modelingbased teaching and learning can look like in an elementary school classroom. It also suggests that the study of energy offers a particularly promising context for developing students' use of science practices, especially the practice of developing and using models.

