

Abstract Submitted
for the TSS12 Meeting of
The American Physical Society

Cognitive Advantages of Blending with Material Anchors in Energy Instruction¹ HUNTER CLOSE, ELEANOR CLOSE, Texas State University - San Marcos, RACHEL SCHERR, Seattle Pacific University, SARAH MCKAGAN, McKagan Enterprises, Seattle, WA — Conceptual blending theory [1] explains how the human imagination creates unreal situations that help us think about reality. In these imaginary blended situations, we establish new correspondences, interactions, and dynamics, and the outcomes of the dynamics lend insight to the nature of various real situations that were used to compose the blend. Blends are not just in the head, however; in some cases, a material system participates in the blend by lending its material structure as conceptual structure [2]. In the instructional activity Energy Theater [3], people represent units of energy and move around in order to solve puzzles of energy transfer and transformation. We use the ideas of blending and material anchors to understand how learners are able to use the representation to their cognitive advantage.

[1] Fauconnier, G. & Turner, M. (2002). *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books.

[2] Hutchins, E. (2005) Material anchors for conceptual blends. *Journal of Pragmatics* 37, 1555-1577.

[3] Scherr, R. E., Close, H. G., McKagan, S. B., & Close, E. W. (2010) "Energy Theater": Using the body symbolically to understand energy. In C. Singh, M. Sabella, & S. Rebello (Eds.) 2010 PERC Proceedings. Melville, NY: AIP Press.

¹Supported in part by NSF DRL 0822342.

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Date submitted: 14 Feb 2012

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