The Metallurgical Challenge: A Meaningful Learning Activity

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Abstract

Many engineering and technology programs are structured to allow students to take fundamental classes like math and science before taking core classes in their programs, with the result that all too often students fail to make the connections between theory and actual application. If these connections are not made early in a student's program of study, students may leave programs that they were otherwise well suited for. This case study provides information about a project dealing with the heat treatment of steel, based on the principles of meaningful learning that was successfully implemented in an introductory materials class. Details provided below should allow the project to be modified to suite a variety of technology program areas.

Biographies

ALEX JOHNSON is an Assistant Professor in the Department of Technology at the University of North Dakota. He earned his BS from the University of North Dakota, his M.S. degree from the University of North Dakota (Industrial Technology, 2001), and a Ph.D. (Teaching & Learning, 2010) from the University of North Dakota. Dr. Johnson's research interests are in engineering and technology education, manufacturing processes and small wind turbine technology. Dr. Johnson may be reached at ajohnson@business.und.edu

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Proceedings of The 2014 IAJC-ISAM International Conference ISBN 978-1-60643-379-9