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## Is Teaching an Art or a Science?

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**Is Teaching an Art or a Science?**

Open any middle or secondary teacher-education college textbook and you will often find the above question asked in one form or another in order to promote reflection by the new teacher candidates. I like to make use of the question at the beginning of training for each new cohort group of trade and industrial (T&I) teachers by employing a “value line” activity. I ask them to form an imaginary line with one end of the line being “art” and the other end “science.” Students get out of their seats and, depending on their sense of the answer to the question, they stand at their chosen positions on the imaginary line. After everyone has selected a place on the line, lively discussion follows as students defend their choice. I refrain from offering an opinion, taking, instead, a facilitator role.

At the end of our cohort program, I ask the same question and our group repeats the activity. It’s remarkable to hear the more thoughtful opinions and see fewer T&I teachers standing at either end of the line. Although the teachers are now versed in psychological and pedagogical principals that apply to learning, they have also come to recognize that few scientific rules apply hard and fast to every teaching situation they have encountered over the year. They have discovered that many of their decisions about teaching strategies, their responses to student misbehavior, or their selection of materials and assessment techniques, while benefiting from scientific research, often must take into consideration more subjective judgments.

As teacher educators and trainers we are deeply rooted in certain theoretical assumptions about our learners and their development. However, exciting new research findings continue to emerge about teaching and learning. We must never become complacent in our beliefs. It is through our commitment to research that we will continue to produce tomorrow’s leaders in our respective fields. With that thought in mind, I invite you to read and assimilate the research presented in this fall issue.

### **In this Issue**

This issue of the *Journal of Industrial Teacher Education* provides four research pieces all relating to teachers and trainers. First, George Rogers, Purdue University, investigated attitudes of middle and secondary technology education teachers toward infusing pre-engineering curriculum, and whether the teachers believed that infusing these activities contribute to their students achieving technological literacy. With a finding of positive teacher perceptions towards pre-engineering, Rogers points to the importance of the implementation process of new curriculum when working with technology education teachers.

In the second featured article Ernest W. Brewer, University of Tennessee Knoxville, and David N. Burgess focused on the college teacher and explored the ways a college teacher motivates students to continue attending classes. The research compared teacher attributes relating to teaching methods, personal qualities, and classroom management. The researchers found that a teacher's personal qualities comprised the largest "motivating" category, while the largest "unmotivating" category was teaching methods. The authors suggest ways that college teachers will be more likely to motivate students to attend class.

In their examination of the relationship between work ethic and the employment status, age, and gender of jobseekers, Roger B. Hill, University of Georgia, and Susan Fouts provide research that is applicable to occupational teachers and trainers. Results of their study indicated that jobseekers employed full-time had significantly lower work ethic scores than jobseekers unemployed less than three months and jobseekers unemployed due to layoff. The researchers suggest that all workforce preparation programs should include a comprehensive curriculum that contains a work ethic component.

Researchers from Georgia State University examined the extent to which trade and industrial teachers enrolled in an alternative certification program engaged in informal learning and their perceived proficiency in twenty-five core teaching skills. The results of this study suggest that new T&I teachers tend to learn core teaching competencies more often through formal than

from informal methods. New perspectives are offered on the role of formal and informal learning in teacher certification programs.

Steve Rogers, Kokomo Area Career Center, and George Rogers, Purdue University, discuss the pre-engineering curriculum and its place in technology education programs in the “At Issue” section. The authors present the argument that a pre-engineering curriculum offers the rigor and relevance sometimes missing in traditional technology education programs.

This issue concludes with a review by Andrew J. M. Smith, Georgia State University, of J. M. Haile’s book, *The Way of the Teacher*. Smith describes how this book’s unusual format and thoughtful message stimulates teacher reflection and encourages teachers to strive for continual growth and improvement.

The end papers contain the *Journal’s* “Bits and Pieces” section which includes information for submitting articles to the *Journal* and an application for becoming a member of NAITTE.

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