Evidence-Based Approaches to Improving CTE Programs

The National Research Center for Career and Technical Education (NRCCTE) at the University of Louisville is committed to providing evidence-based solutions to the most vexing problems confronting CTE today:

- how to better engage students in the school experience;
- how to improve academic as well as technical achievement; and
- how to improve the transition of college and career ready young people from high school to continuing education beyond high school.

Preparing College and Career Ready Students

Evidence-Based Approaches to Improving CTE Programs

What Participants Say

“[Math-in-CTE is] exactly what we have needed for a long time. Professional development that integrates local curriculum is the place to start with improving student performance.”
– Math-in-CTE participant

“CTEDDI is very helpful in planning for improved instruction and monitoring student progress.”
– CTEDDI participant

“I feel this was a good workshop to take and it definitely opened up my eyes and made me appreciate the CTE teachers more.”
– Math-in-CTE Math teacher partner

“I think [my] students probably come away seeing how reading and writing can help them improve their profile in a welding- or machining-class work environment.”
– Literacy-in-CTE participant

Prepared by the National Research Center for Career and Technical Education at the University of Louisville. For information, contact nrccte@louisville.edu Web: http://www.nrccte.org/
Demands on students’ literacy skills are becoming increasingly intense and rigorous, especially in highly technical CTE courses and in today’s labor market. Yet barely one-third of high school graduates are considered proficient in reading.

In developing the **Literacy-in-CTE curriculum integration model**, NRCCTE researchers based at Cornell University experimentally tested two approaches to integrating literacy skills in CTE. The results showed that both approaches significantly improved students’ literacy skills, but one framework that utilized authentic texts and implemented specific reading strategies did more to improve students’ reading comprehension and vocabulary and increase literacy in high school CTE classrooms.

Further, students of teachers who participated in two years of professional development significantly outperformed all of the other groups.

To learn more about participating in Literacy-in-CTE, visit our website at www.nrccte.org and contact:

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**Math-in-CTE**
Experimental research conducted by the NRCCTE that included nearly 3,000 students and 200 teachers in nine states demonstrated that a carefully designed pedagogy and curriculum framework built on sound learning theory—the **Math-in-CTE curriculum integration model**—significantly improves students’ math performance on standardized tests of mathematics and community college math placement tests. Moreover, students improved their math skills without losing the important technical skills needed for college and career readiness.

The NRCCTE is moving the compelling results from this evidence-based research study into classroom practice by making Math-in-CTE readily available across the country. Since first implemented in 2006, nearly 30 states and large school districts have improved the math skills of their CTE students using the model.

To learn more about how your state or school district can benefit from implementing this evidence-based approach to program improvement, visit our website at www.nrccte.org and contact:

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**Career-Technical Educators Using Data-Driven Improvement (CTEDDI)**
A key strategy in preparing college and career ready high school graduates is making effective use of the voluminous assessment data available to educators. NRCCTE researchers at NOCTI spent three years researching and pilot testing a professional development model that takes the confusion out of interpreting and using assessment data and helps teachers focus on the data connections between work and real-world student learning in order to create instructional improvement plans.

**CTEDDI (Career and Technical Educators Using Data-Driven Improvement)** is the only evidence-based program designed to prepare both administrators and CTE teachers to use technical assessment data to continuously improve their programs. Educators analyze their own students’ data as they create both classroom- and student-level instructional improvement plans.

Delivered by knowledgeable in-state facilitators who serve as ongoing coaches for teachers and administrators, CTEDDI also sustains valuable communities of practice through an online sharing center.

To learn more about participating in CTEDDI, visit our website at www.nrccte.org and contact:

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“We are going to have to read in order to know what we’re supposed to be doing…I think it’s the backbone to any and every job out there.”
– Literacy-in-CTE student

“They are changing the way they view technical assessment data. They now see it as a valuable tool for making instructional improvements.”
– CTEDDI participant