CTE's Focus on Continuous Improvement through Data-Driven Improvement of Instruction

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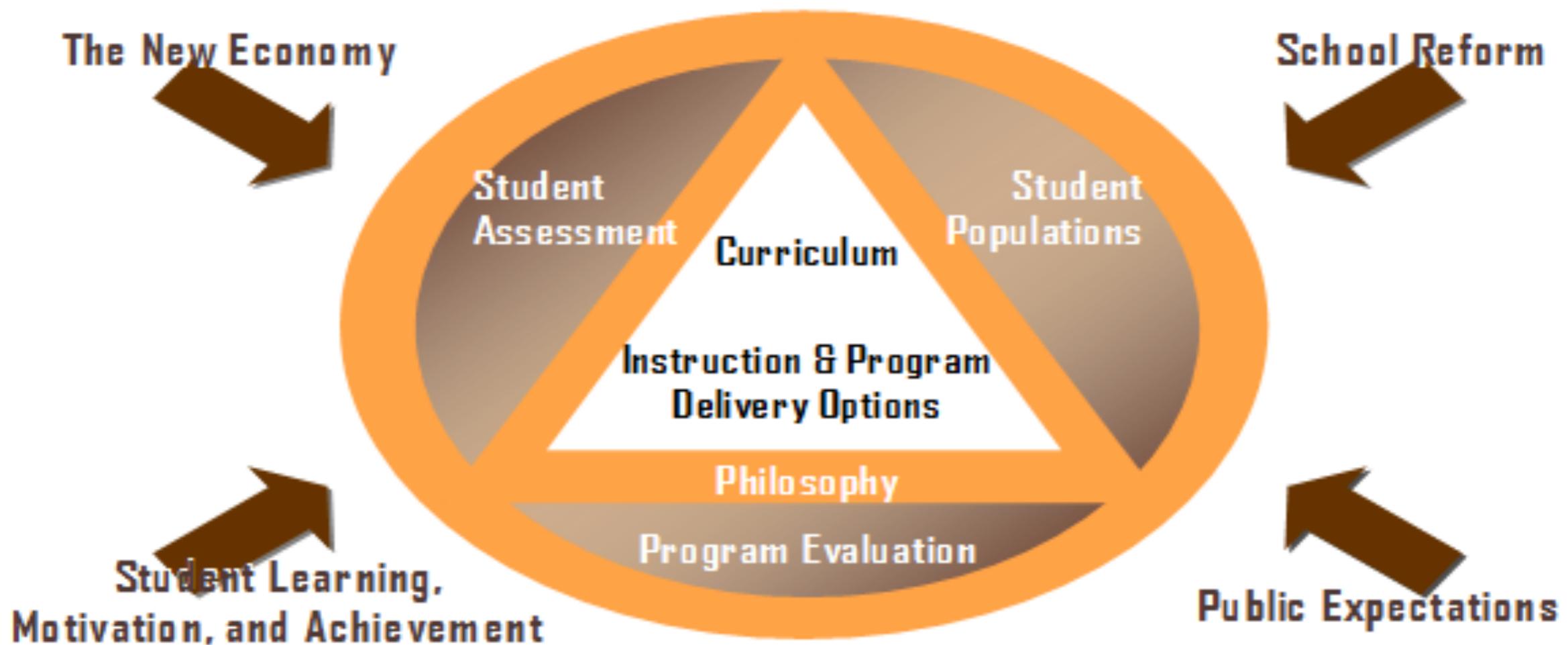
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Continuous Improvement

Why?

- The economy
- Student learning, motivation and achievement
- School reform
- Public expectations (e.g. Secretary of Education Duncan to NASDCTEc 4/19/11:program effectiveness needs to be more uniform nationally; measures of CTE program effectiveness should be high graduation rates, transitioning students to postsecondary education without remediation, and leading to employment in the field studied.)

Rojewski's Conceptual Framework for CTE

This figure is from a PowerPoint presentation given by Rojewski to the Kentucky Career and Technical Education Conference, February 5, 2009.

NRCCTE:
Partners

What is CTEDDI?

- **Training that is highly interactive**
- **A process, not a one-time event**
- **Uses data that teachers and schools own**
- **Builds on the success of an ever-increasing community of practice**
- **Ongoing state-supported mentorship, local coaches and online help**

CTEDDI

CTEDDI's Origin: three years of research and development

- **Survey research and literature review**
  How CTE uses data to inform instruction
- **Intervention Development**

  - **Pilot of the intervention and iterative refinement**
  - **Extended reviews and model verification**
  - **Market and viability research**

Successes Reported in Pilot Sites

Educators saw positive improvements based on the instructional changes they had made, such as :

- **reviewing areas of general weakness,**

- **finding new materials and resources to use with the students,**

- **adding to the curriculum or changing curriculum timing,**

- **assisting or getting assistance for individual students to address weaknesses.**

Instructional Improvement Cycle

5 Steps

Collect Data

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Analyze Data

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Verify & Triangulate

↓

Design Action Plan

To Improve Learning & Instruction

↓

Implement Plan & Review Outcomes

ONGOING

Review of What's Involved

- **Workshop(s) Facilitated by In-State Facilitator**
- **Internal and External Community of Learners**
- **Mentoring Through the School Year**
- **Sharing Center**
- **A Local Team Approach**
- **Development and Implementation of an Action Plan with YOUR data---and what if you obtain additional data? Refine your plan!**

Workshop Goals

- **Understand data and assessments**
- **Use data effectively**
- **Improve learning and skill acquisition for students**
- **Plan for continuous improvement of learning and instruction**
- **Share ideas and collaborate with educators in other states as part of a professional learning community**

Good Assessments

- **Valid**
    - **Test is relevant and based on current standards**
    - **Test items measure what they are supposed to measure: the important content or concepts that were taught and that the student must know**
    - **Subject matter experts develop and evaluate test items**

Summative Assessment

- End-of-program or annual test
- Pretests (covering all major content areas) are used to identify entry skills and measure gain
- Broader in scope, for comparison of groups
- Licensing, certification, employment, college readiness or admission
- Required by legislation (e.g., to receive Perkins funds)

Step 2

5 Steps

Collect Data

Analyze Data

Verify & Triangulate

Design Action Plan

To Improve Learning & Instruction

Implement Plan &
Review Outcomes

ONGOING

Analyze Data:
Draw conclusions from data

NOCTI

Classroom Example:

A Carpentry Class
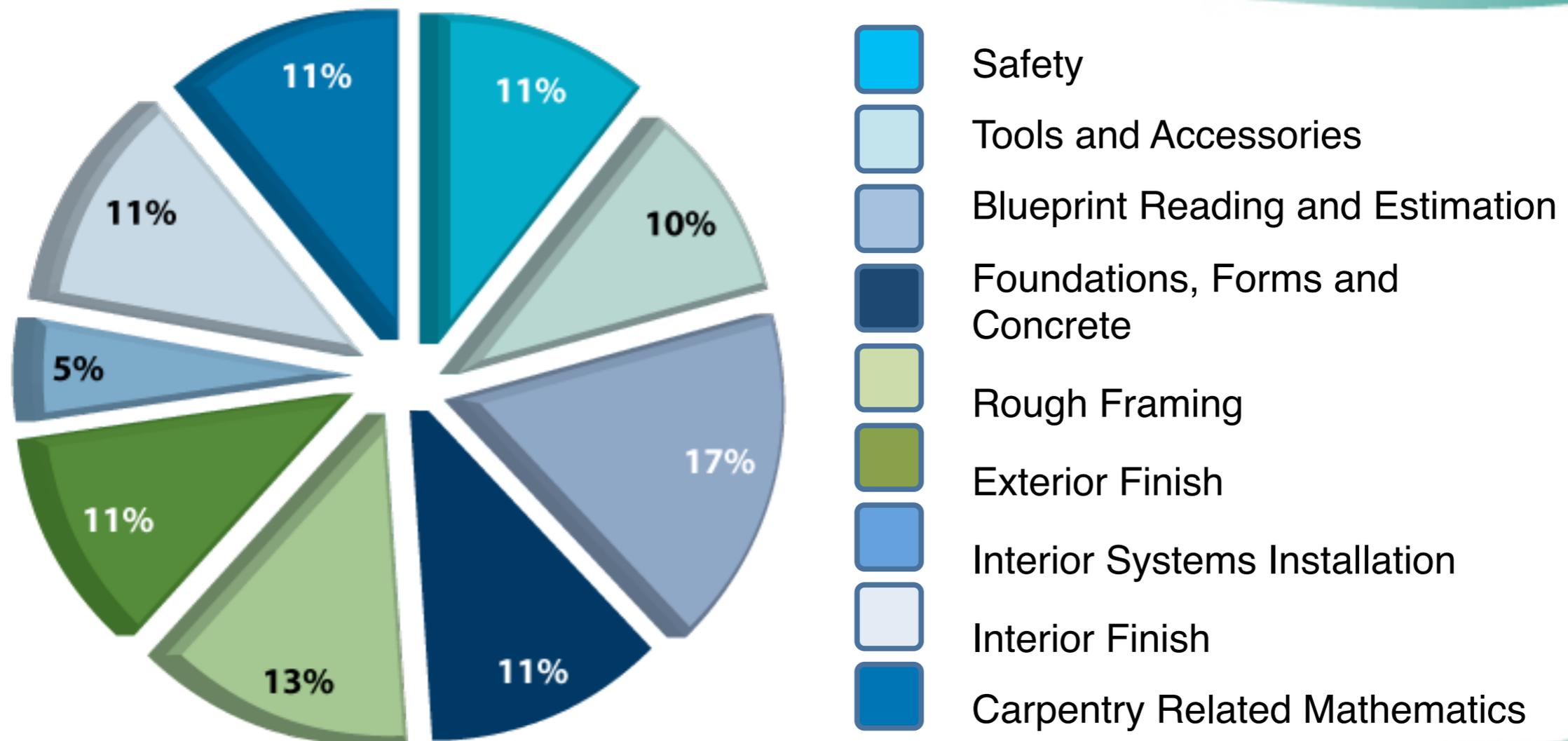
Carpentry Class Pre-Test

Carpentry Pre-test Areas	Student 1 % Correct	Student 2 % Correct	Student 3 % Correct	Student 4 % Correct	Student 5 % Correct	Student 6 % Correct	Class Average % Correct
Safety	54.6	45.5	36.4	27.3	27.3	54.5	40.9
Tools and Accessories	30.0	20.0	10.0	20.0	10.0	30.0	20.0
Blueprint Reading and Estimation	41.1	17.6	23.5	23.5	29.4	35.3	28.4
Foundations, Forms, and Concrete	36.4	54.5	45.5	45.5	36.4	54.5	45.5
Rough Framing	53.8	38.5	30.8	38.5	30.8	53.8	41.0
Exterior Finish	36.4	36.4	27.3	36.4	36.4	45.5	36.4
Interior Systems Installation	40.0	60.0	40.0	60.0	60.0	80.0	56.7
Interior Finish	27.3	9.1	18.2	27.3	9.1	27.3	19.7
Carpentry Related Mathematics	35.9	45.5	27.3	36.4	36.4	54.5	39.4
Total	40.0	34.0	28.0	33.0	29.0	46.0	**35.0**

5 Steps

Collect Data

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Analyze Data

↓

Verify & Triangulate

↓

Design Action Plan

To Improve Learning & Instruction

↓

Implement Plan & Review Outcomes

ONGOING

Verify and Triangulate:
Other data play a role!

Triangulate Other Data

Step 4

5 Steps

Collect Data

Analyze Data

Verify & Triangulate

Design Action Plan

To Improve Learning & Instruction
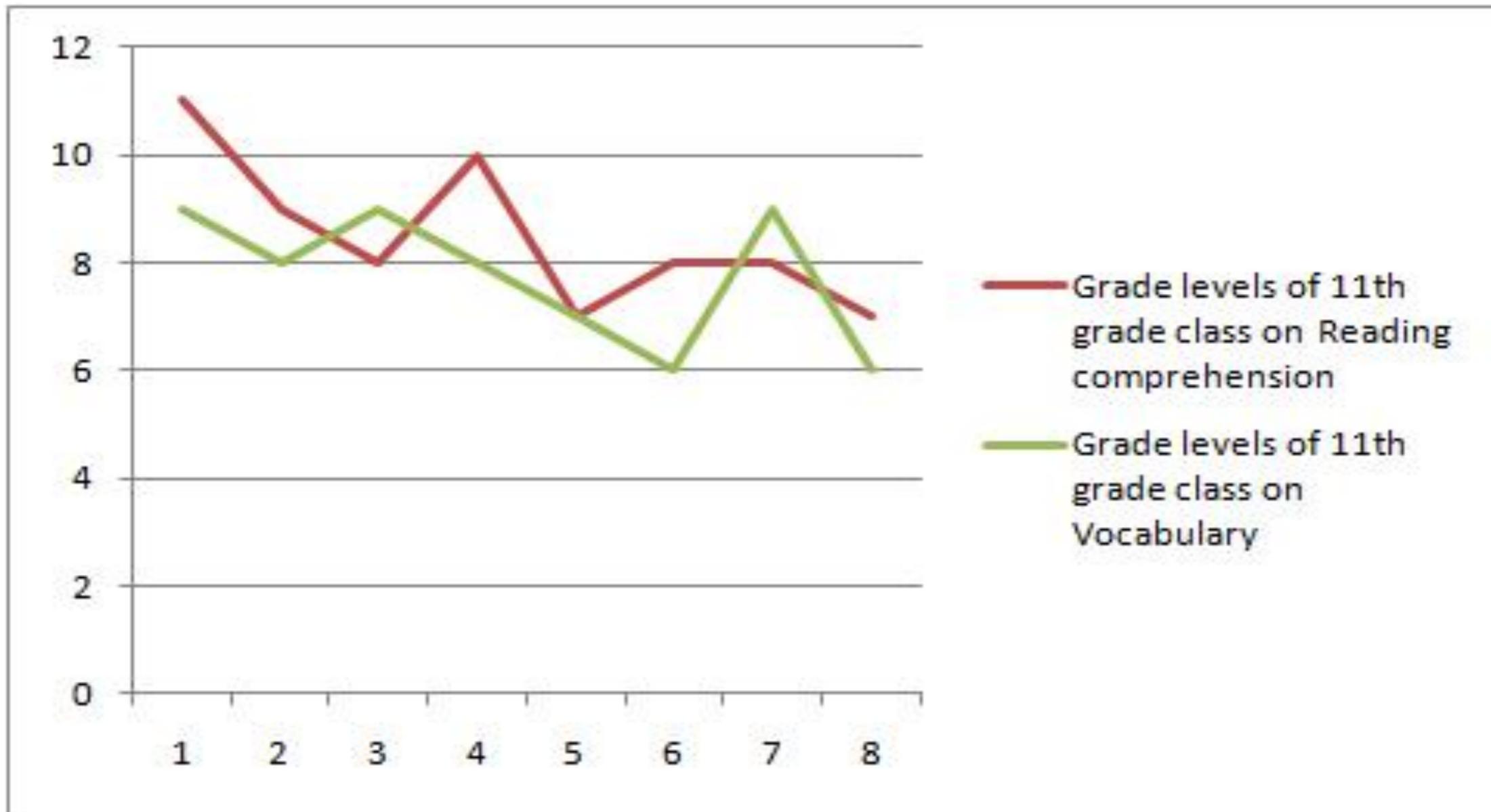
Implement Plan & Review Outcomes

ONGOING

Design Action Plan:
Begin the planning process!

Step 4: Design an Action Plan Final
Worksheet 5: Prioritize

Name: [   ] Program: Business Administration School: [   ]

Directions: From your program's baseline (pretest) data, develop goals and performance targets; determine the indicators of success and whether new practices need to be implemented as part of the next steps and timing. Use information and data sources identified in the previous worksheets for this exercise.

Overall Goal: To further improve the technical competency of the KTC McAlester Business Administration program using evidence from class results on the NOCTI and ODCTE state competency test.

Summarize the strengths in your data: My program's data shows strengths in the areas of computer applications, working in an office environment, and office procedures.

Summarize the weaknesses or gaps between the status and the standards your program or school needs to achieve: The class has weaknesses in the areas of accounting and computational skills and records management.

Prioritize desired short term	Data Required:	Indicators of Success:	Steps for current school year:	Strategies for groups or individual students

Post-Workshop Components

- **Follow-up Mentoring and Coaching**
- **Post-Workshop Activities**
- **Sharing Center**

Follow-up (by webinar, visit, phone)

Purpose:

- **To provide mentoring for implementation of action plans**
- **To share strategies that are working**
- **To identify any barriers**

Questions:

- **What is going well?**
- **What are your challenges?**
- **What has been the reaction by students?**
- **What additional resources do you need?**

Next Steps:

- **Continue to implement action plan**
- **Make notes of any successes or barriers**
- **Share on the professional sharing site**

Professional Development Sharing Center

Browse... | Upload

To upload a file... Click Browse to select, then Upload.

Educational Resource Articles

DesignActionPlanFinal.docx
mark.jett

Form for Credit.jpg
sandy.pritz

Course credit through Oklahoma State University.docx
sandy.pritz

Statistical resources for data.doc
carol.hodes

Data plan narrative.doc
carol.hodes

Step 4Worksheet 5 Final.doc
carol.hodes

NOCTIWhitePaper.pdf
sandy.pritz

Dreams1.jpg
david.hall

NRCcte Site Coordinator Training

Type comment here, then click Add Comment to post a message...

Add Comment

Health Occupations people, how are you using Nocti Pretest data? --- *beth.rhymestine* 3/17/10

(0) View/Create Threaded Conversation

Received my first homework assignment. Looking for carpentry instructors willing to discuss NOCTI strategies utilizing Pre-Test data to improve instruction. We have created some helpful NOCTI driven curricular documents in the School Dist. of Phila. recently that are aiding us in focusing the carpentry, electrical and plumbing programs in an organized framework. Hope we can be helpful. --- *Patrick.durkin* 3/16/10

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Benefits of CTEDDI
for Continuous Improvement

Educators

- **Data-driven instructional improvement**
- **Improved ability to meet accountability goals**
- **A positive educational impact**

CTE Community

- **Practical application of Perkins data**
- **Logic-based policy tool**
- **Demonstrate ROI**

Everyone

- **Increased student achievement**
- **Enhanced preparation for college and careers**
- **Gains in workforce competence/productivity**

Who Should Participate?

- **Statewide, state-determined teams**
  - **Ongoing support**
- **Large city school systems**
  - **Ongoing support**
- **Local administrators and teachers ***
- **Individual teachers ***
- **Those who just plain love data! ***

* Jump-Starts or Introductory PD
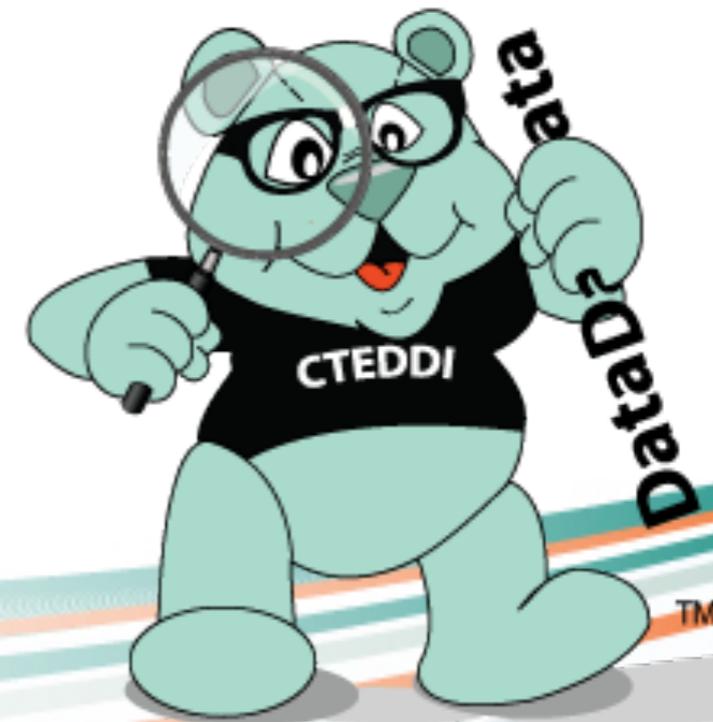
Ways to Participate

Statewide Implementation

- **State DOE support**
- **Use of Sharing Center**
- **Ongoing mentorship**
- **Access to evolving resources**
- **Access to a national network**
- **Statewide common workshops on data**
- **Use of real data**

Jump-Start

- **Local support**
- **Access to existing resources (for the Jump-Start days only)**
- **2-day workshop on CTEDDI process**
- **Use of mock data**

Introductory PD

- **Access to existing resources (for the day only)**
- **1-day (or less) workshop**
- **Use of a portion of exercise data**

The Timeline

Month/Date/Timing		Event
April 16-18 And another later date TBA		National facilitator training for state-designated facilitators and state assessment coordinators (optional). University of Louisville (NRCCTE), Louisville, KY
August	Prior to start of school	In-state session with the state facilitator, assisted by NRCCTE staff, and administration of up to 10 school districts, teacher teams (voluntary), and the State Department of Education. State facilitator sends a list of participating schools and contact person for each to NRCCTE.
August	First local pre- or in-service day	Local administrator explains CTEDDI process, schedules pretest times for entire faculty (a briefing of the 3 to 5 selected program areas prior to this meeting is suggested).
October		Students pretest and teachers receive pretest data.
October		Common session on the CTEDDI process for all schools in state. State facilitator, with NRCCTE staff assistance, presents CTEDDI Steps 1-4 to administrator(s) of 10 school districts, teacher teams (for the 3 to 5 program areas), and the State Department of Education.
October		Individual Action Plans (for the 3 to 5 program areas) are drafted and posted on the CTEDDI Sharing Site within 2 weeks.
November	Before Thanksgiving	State facilitator visits each school to monitor plan implementation. Establish date for post-testing, for those utilizing this option.
January through April	Prior to (optional) posttesting	State facilitator conducts a site visit to each school to review CTEDDI Step 4.
Spring semester		State facilitator conducts meetings with school team using technology to present CTEDDI Step 5 ; a combination of e-mail, or phone/web conferencing at least once per month at a minimum.
May		State facilitator conducts a wrap-up site visit to each school to explain the value of using longitudinal data and continued participation. Review posttest results (if utilized) and interpret for action plan effectiveness and impact for coming year.

How Can I Apply?

State Implementation

- **Request an application packet from laferris03@louisville.edu or nocti@nocti.org**
- **Formal agency letter with application by March 15 for April training**
- **Site identification and contact information**

Jump-Start

- **Tech Centers That Work: Jan. 24 (Savannah)**

Individual Introductory PD or Customized Option

- **Contact laferris03@louisville.edu or nocti@nocti.org**

Other NRCCTE PD Projects for Continuous Improvement

Currently offering technical assistance:
- **Math-in-CTE**
- **Authentic Literacy-in-CTE**

Moving soon to technical assistance:
- **Science in CTE**
- **Alternative Licensure Career/Technical Teacher Induction Model**