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Findings from 2009-2010 Field Tests of an Induction Model for Alternatively Certified Career and Technical Education Teachers

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Overview

- This study reports results from the first year of development of a model for preparing new CTE teachers coming to the classroom from industry through alternative ("fast track") routes to certification.

Our Session Today

- Description of Model
- Methodology
- Selected Findings
- Next Steps

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Rationale for Project

- **What is the need in the field?**
  - 105 different routes to CTE teacher certification (Zirkle, Martin, & McCaslin, 2007)
  - Widely varying requirements from state to state
  - Estimates of new teacher retention range from 25-75% attrition within first three years (Marvel et al., 2006; Bottoms & McNally, 2005)
  - Perkins IV drives up skills needed by CTE teachers

- **Solution:** To develop a well-tested model that can be adopted by states to improve competency, self-efficacy, and career commitment of CTE teachers

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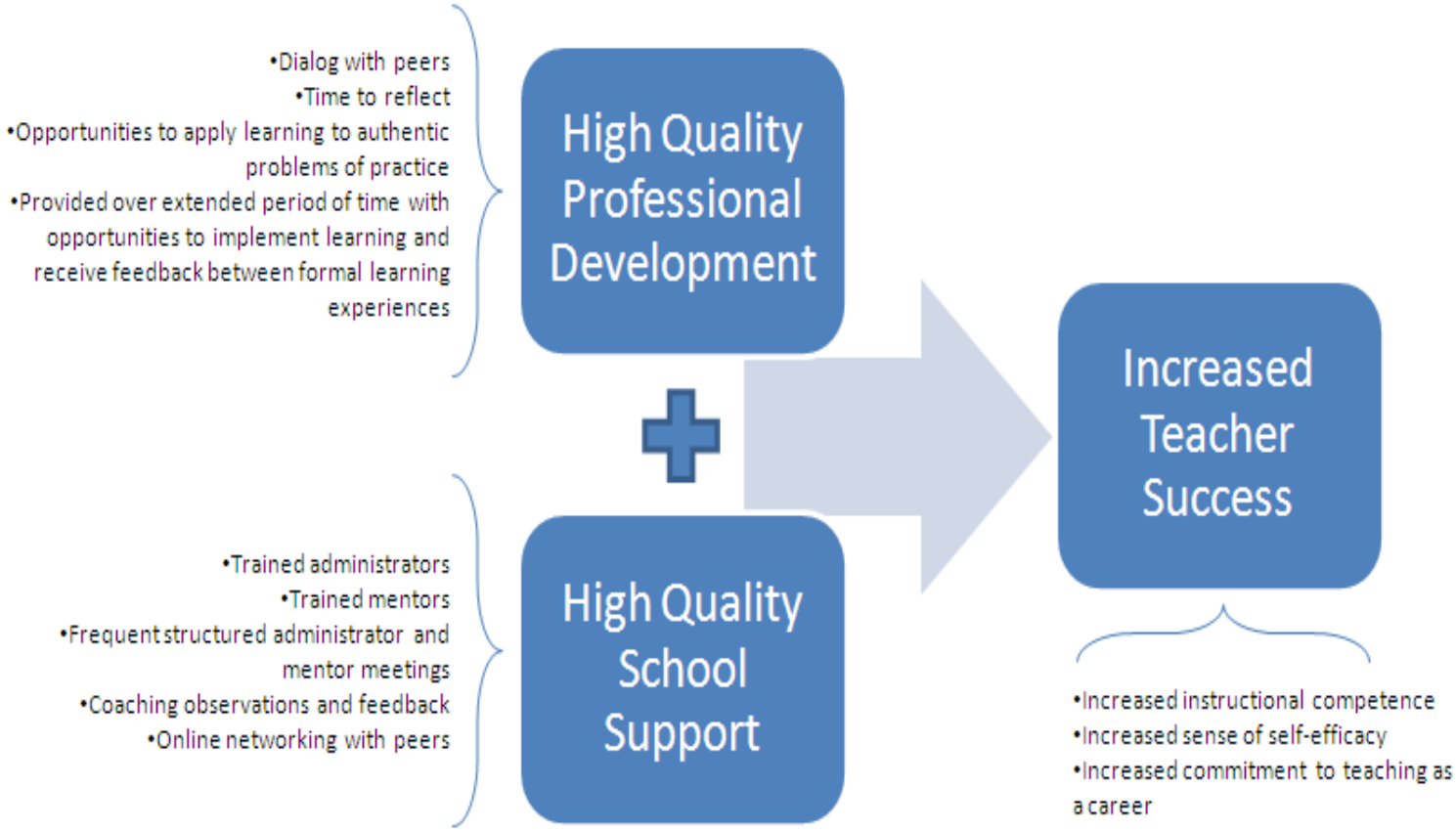
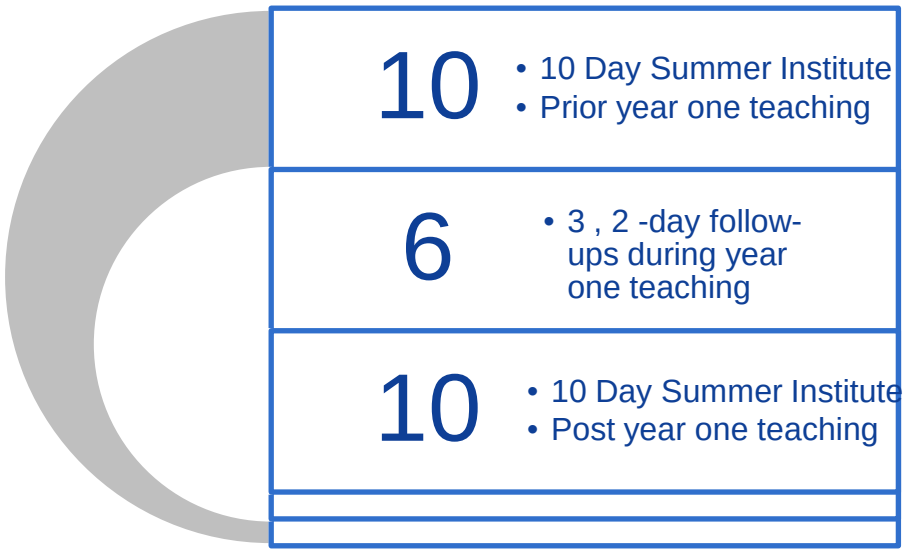
Conceptual Framework



High-quality teacher training and support lead to increased teacher competency, self-efficacy, career commitment, and ultimately, improved student outcomes.

Components of the Model

Professional Development



Support

- On-site coaching visits from the professional development instructor
- Mentoring from a trained, experienced teacher
- Support from the building administrator
- Electronic communities of practice

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Professional Development Content

Instructional Planning:

Create short-term and long-term standards-based instructional plans based on the varying learning needs of students.

Instructional Strategies:

Use instructional strategies that actively engage students in learning and encourage the development of problem-solving, critical thinking, and teamwork skills.

Teacher Competence

Classroom Assessment:

Use formal and informal assessment strategies to evaluate student progress toward learning goals and provide feedback to improve student learning.

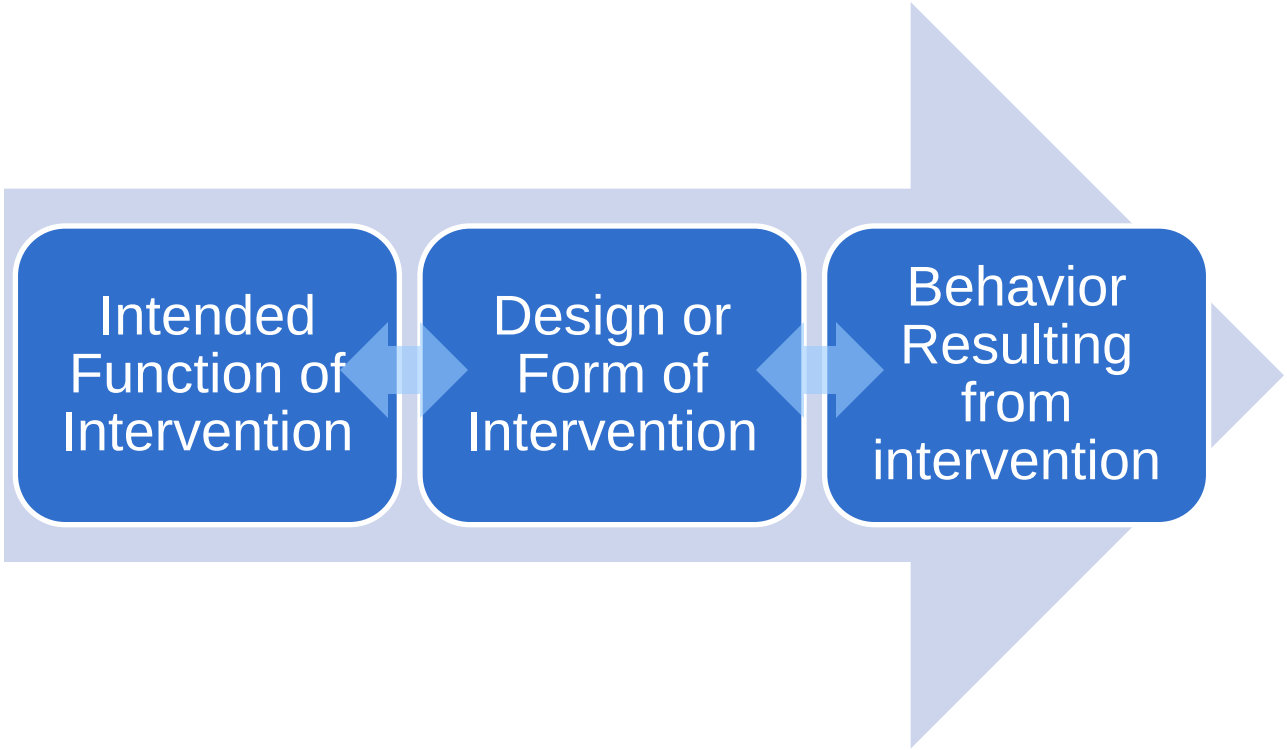
Classroom Management:

Create a learning environment that encourages student motivation, positive behavior, and collaborative social interaction.

Teacher Reflection: Reflect, both individually and collaboratively, on the effects of instruction and use the reflective process to continually improve instructional practice.

Methodology

- **A *design research* approach (Middleton et al., 2008) to develop a product**



Design Research is Iterative

Year 1: Field Test of Module Content

- Analyze Data
- Revise

Year 2: Field Test of Full Induction Model

- Analyze Data
- Revise

Year 3: State-Led Field Test of Full Induction Model

- Analyze Data
- Final Documents Published

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Field Test Questions—Year 1

Research Question	Observation Journals	Quick Cards	Pre-Post Constructed Response	Pre-Post TSES	End of Day Evaluation	Teacher Focus Groups	Instructor Debriefs
Is content relevant, useable, clear?	X	X			X	X	
Is the scope of content reasonable?					X	X	X
Is it delivered consistent with adult learning principles?	X	X					
Do artifacts reflect intended outcomes?			X	X			
Are our assumptions of "teacher competence" appropriate?						X	X
Do our measures function as we need them to?		X	X	X	X		X

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Characteristics of Participants

Characteristic	*n*	%
Gender		
Male	24	52%
Female	22	48%
*Race/Ethnicity**		
White	35	76%
American Indian	7	15%
African American	5	11%
Hispanic	1	2%
Age		
Less than 25	2	4%
25-34	17	37%
35-44	13	28%
45-54	10	22%
55-64	4	8%

Characteristics of Participants

Characteristic	*n*	%
Highest Level of Education		
High School only	1	2%
High School with professional training	13	28%
Associate's Degree	5	11%
Bachelor's Degree	19	41%
Beyond Bachelor's Degree	8	17%

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Characteristics of Participants

Characteristic	*n*	%
Subject Area		
Agriculture and Natural Resources	3	6%
Arts, Audio, Video Technology and Communication Services	4	8%
Construction	7	15%
Education and Training Services	2	4%
Health Services	9	18%
Hospitality and Tourism	2	4%
Human Services	5	11%
Information Technology Services	5	11%
Legal and Protective Services	1	2%
Manufacturing	3	6%
Transportation, Distribution, and Logistics Services	3	6%
Scientific Research, Engineering and Technical Services	1	2%

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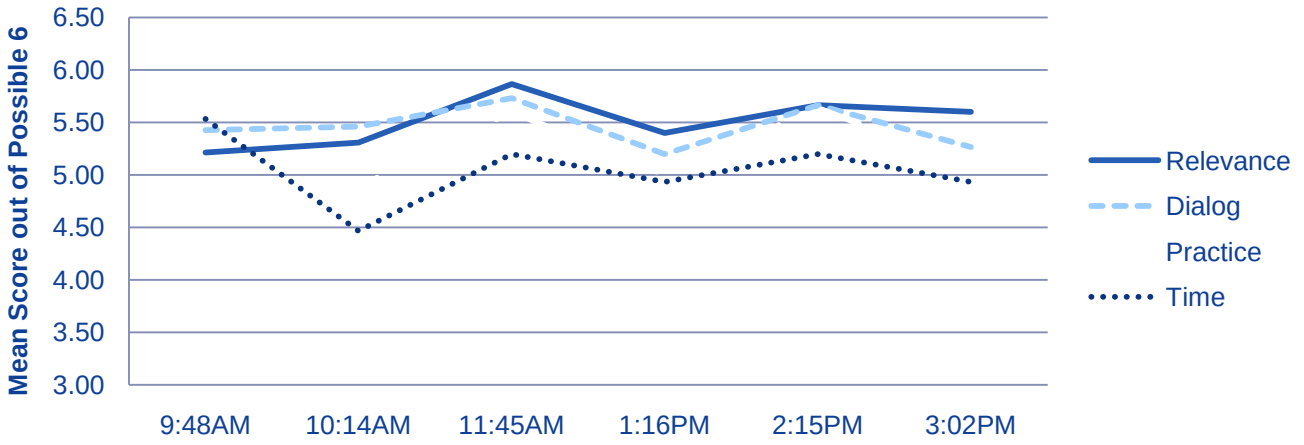
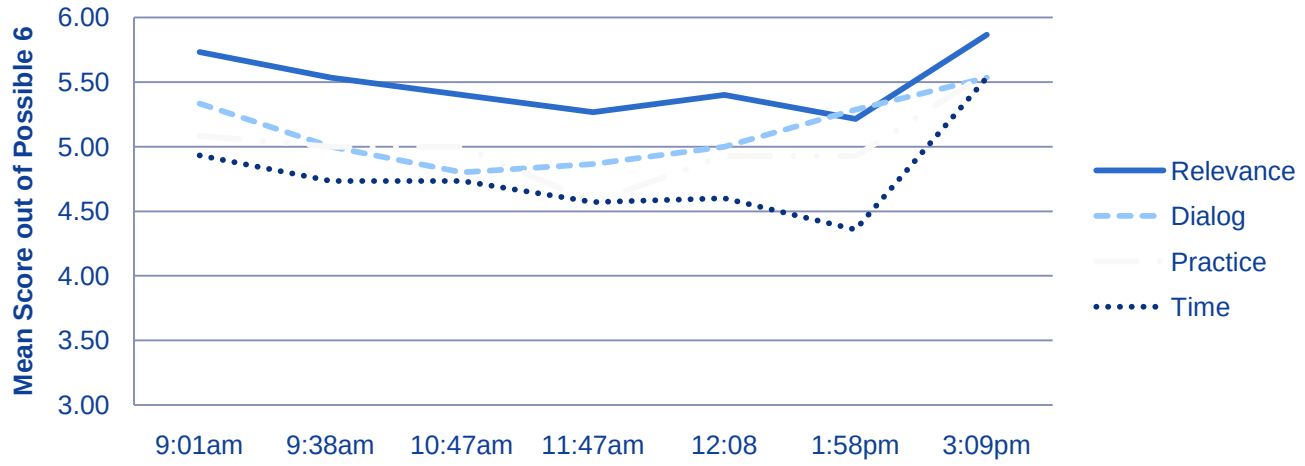
Analysis of Adult Learning Quality

Day 1 Ratings of Adult Learning Quality



Day 2 Ratings of Adult Learning Quality



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Analysis of Self-Efficacy

TSES Sub Scale	Pre	Post	Change	Statistics	
				p	*t*
Efficacy in Student Engagement	6.40	6.86	0.46	.030	2.35
Efficacy in Instructional Strategies	6.49	7.13	0.64	.004	3.33
Efficacy in Classroom Management	6.60	7.23	0.63	.004	3.29

Paired samples *t-test* was conducted. Participants took pre-test at beginning of Day 1, and post-test at end of Day 3. Sample size = 20 participants.

These data are used to identify trends in the desired direction in combination with other data sources, rather than as direct proxies of self-efficacy.

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Analysis of Focus Group Data

Focus Groups Field Test 1	Focus Groups Field Test 3
I need more specific training in the areas I teach. *[I need] more personal CTE program material (directed at my program).* *I really can't use the material I learned here because it is not connected to my content.*	*You go to other trainings and [what they present] doesn't really apply. It's overall, generalized, teaching strategies. You come here and it's reversed. Here, you sit down and you have people who understand what CTE teaching is, and then come in and say, "This is how you apply this to your classroom".*

Findings

Content and Strategies that Enhanced Student Learning

- Revisions for audience needs, time for reflection, clarity of content
- Suggestions for sequence of topics
- Strategies that supported learning
  - Content-area specific examples
  - Coaching during small groups
  - Facilitated reflection

Characteristics and Needs of Participants

- Literacy and numeracy skills of participants
- Challenges and concerns of beginning CTE teachers

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Other Key Content Findings

- Clarification and organization of content
- Emphasis on student needs, motivation, and classroom management
- Integration of academics
- Instructional delivery modeled throughout all modules
- Opportunities to “teach-back” and reflection
- CTE Area-specific examples

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Methodological Findings and Challenges

- Enhancing qualitative methodologies
- From retention to career commitment
- Scheduling constraints hamper selection and pre-testing of new teachers
- Design challenges of showing improvement for “all” teachers

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Full Induction Model Field Test--Implications

- Communication with participants prior to workshop
- Sequence and pace of content for full induction model
- Value of one-to-one and small group coaching
- Importance of sustained, structured support
- Materials needed for supervising administrators and mentors

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What are our challenges as we continue to test the model?

- Diversity of audience and different stages of readiness
- Math and literacy skills of teacher-learners
- Sequence and pace—teaching for learning and not coverage
- Professional development sequence—length and number of sessions
- Building capacity of state partners

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For Further Information

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Disclaimer

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