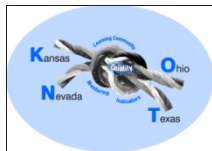


# ***E-Coaching to Accelerate Authentic Web-Based Professional Learning for Beginning Teachers***

**NAAC 2010 Conference**

**January 27, 2010**

**Project KNOTtT**  
**(Kansas, Nevada, Ohio, Texas Transition to Teaching)**

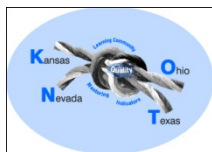


**College of Education  
and Human Ecology**



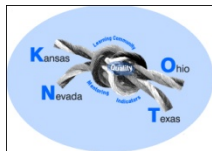
# Presenters

- Belinda Gimbert, Ph.D. - OSU Assistant Professor & Project KNOTtT Director
- Becky Parker - Project KNOTtT e-Coaching Lead
- Casaundra Ensley - Dallas ISD Math Coordinator & Math e-Coach
- Anika Anthony, Ph.D. - OSU Assistant Professor
- Juanita Wilson - Dallas ISD Science Coordinator & Science e-Coach



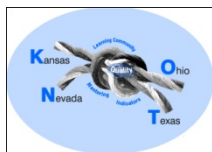
# Presentation Plan

- Overview of Project KNOTtT
- Review of the Literature
  - E-Coaching
    - Coaching vs. Mentoring
  - Self-Efficacy
  - Professional Learning
    - Professional Learning vs. Professional Development
- Research Questions
- Findings
- Lessons Learned
- Questions & Answers

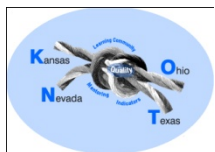
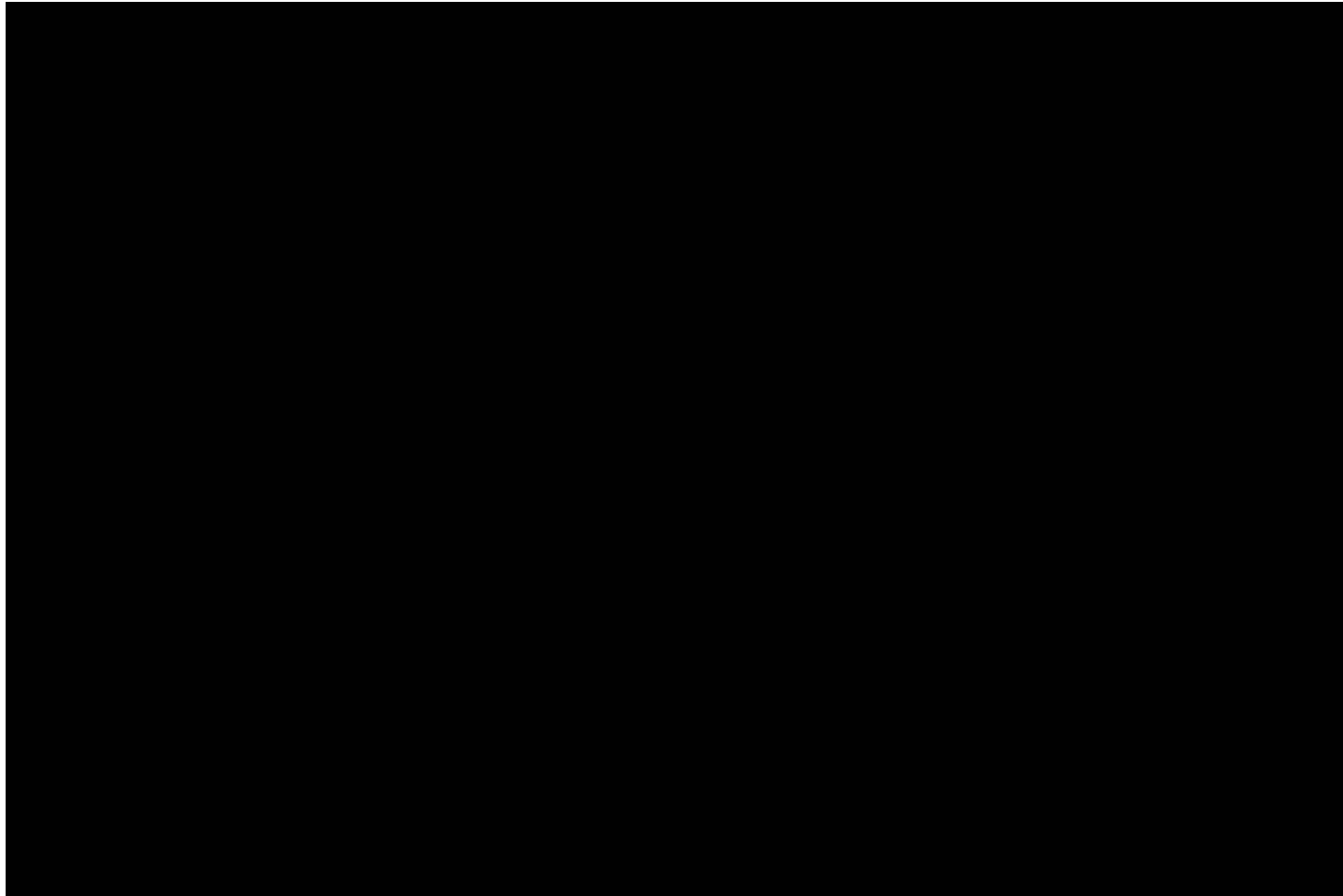


# About Project KNOTtT

- Multi-state, multi-agency collaboration - Kansas, Nevada, Ohio, Texas
- Recruit, prepare, support, retain 545 teachers of record in high-need and hard-to-staff school districts across 4 states
- Blended learning environment
  - Face-to-face instruction
  - KNOTtT website (e-modules, e-coaching)
- Funded in 2007 by a 5-year Transition to Teaching grant through the U.S. Department of Education's Office of Innovation and Improvement

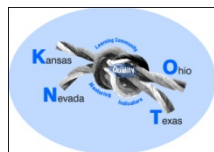


# Project KNOTtT Movie



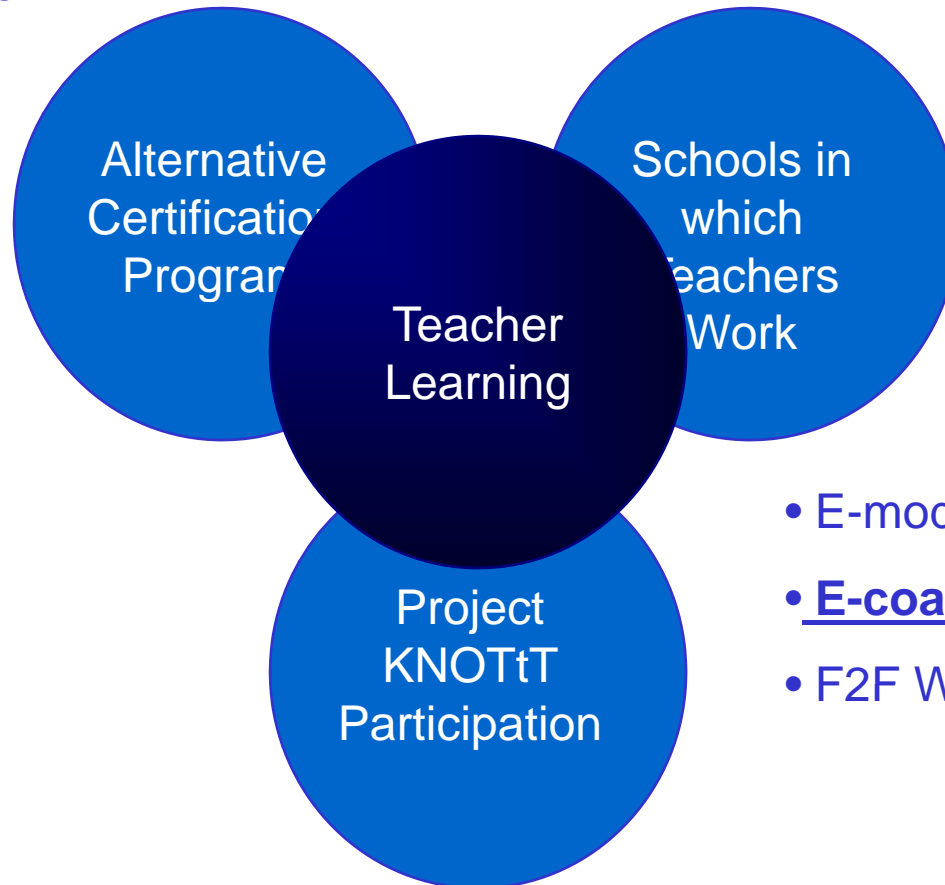
# Theoretical Framework

1. Teacher learning contexts
2. Coaching as a means of supporting teachers within a learning context
  - Teacher self-efficacy as an intended goal of coaching
  - Coaching conducted through professional development & professional learning strategies



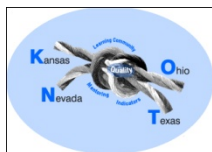
# Contexts of Teacher Learning

- In-class instruction
- Readings
- Structured Assignments
- Observation
- Discussions with peers & mentors



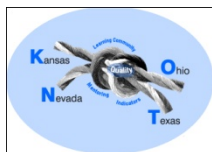
- Learning on the job
- Formal & informal mentoring

- E-modules
- E-coaching
- F2F Workshops



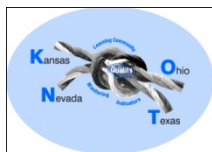
# Coaching vs. Mentoring

	Coaching	Mentoring
Purpose	Address learning and professional needs of individuals	Provide feedback and advice to mentees
Focus	Goal achievement to raise individual performance	Successfully navigating work demands within an organization
Who are coaches or mentors?	Generally carefully selected organizational outsiders	Often senior organizational insiders who formerly held a position similar to mentees
Additional considerations	Coaches must have time and skills to provide coaching	Mentees may have difficulty sharing confidences with mentors because they work in the same organization



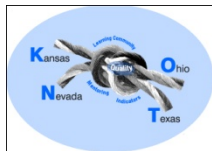
# What is E-Coaching?

- Coaching delivered using telecommunication technologies and devices
  - Telephone, online chat rooms, instant messaging, Bluetooth devices
  - Just-in-time or job-embedded opportunities for coaching
  - Has been used in educational and business settings
- Benefits
  - Address location, travel, scheduling, and cost constraints
  - Valuable for subsequent reference
  - Training modules can help participants prepare for e-coaching
  - Scales coaches' support and expertise (i.e., opportunity to coach organization and the client simultaneously)



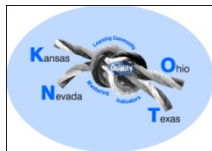
# Teacher Self-Efficacy

- Definition: A teacher's belief in his or her capacity to organize and execute a course of action to successfully accomplish a teaching task
- Importance of teacher self-efficacy
  - Has been linked to teacher retention
  - Impacts teaching practice & student achievement
  - Has been linked to student self-efficacy
  - Has been described as the most powerful teacher attribute



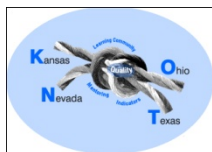
# Influences on Teacher Self-Efficacy Development

- Mastery learning experience
  - Explicit instruction & training
  - Modeling performance
  - Symbolic exposure to experiences
- Social support
- Attribute instructional success to teacher efforts
- A host of contextual factors



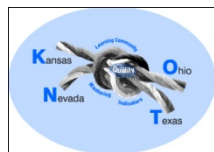
# Professional Learning (PL) vs. Professional Development (PD)

	PL	PD
Purpose	<ul style="list-style-type: none"> <li>• Support, not hinder, learning of working professionals</li> </ul>	<ul style="list-style-type: none"> <li>• Provide information to improve practice &amp; job performance</li> </ul>
Typical delivery	<ul style="list-style-type: none"> <li>• On-going and continuous</li> <li>• Authentic learning experience</li> <li>• Informed by professionals' assessment of situations where they feel they learned best</li> </ul>	<ul style="list-style-type: none"> <li>• Learning occurs in discrete finite episodes with beginning and end</li> <li>• Training model</li> <li>• Separate from practice</li> </ul>
Additional considerations	<ul style="list-style-type: none"> <li>• Long term learning experiences situated within a community</li> <li>• Linked to practice changes</li> </ul>	<ul style="list-style-type: none"> <li>• Time efficient</li> <li>• Learning may not be integrated into changes in everyday work</li> </ul>



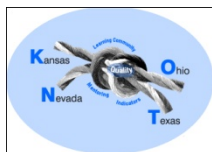
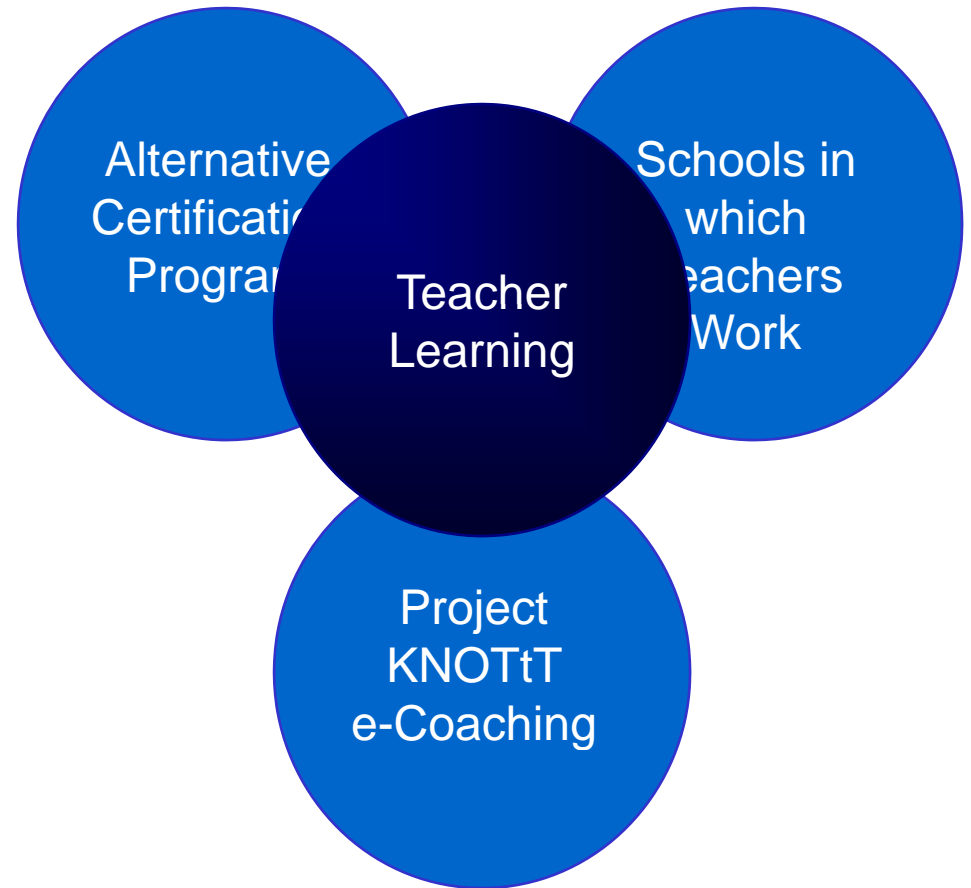
# Project KNOTtT e-Coaching

- E-Coaching is designed to support AC programs & teachers/teacher candidates
- Goal of e-Coaching
  - Assist teachers with acquiring knowledge & skills to pass licensure exams
  - Increase teacher self-efficacy to teach in complex school settings



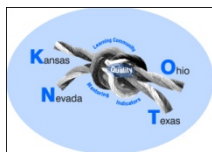
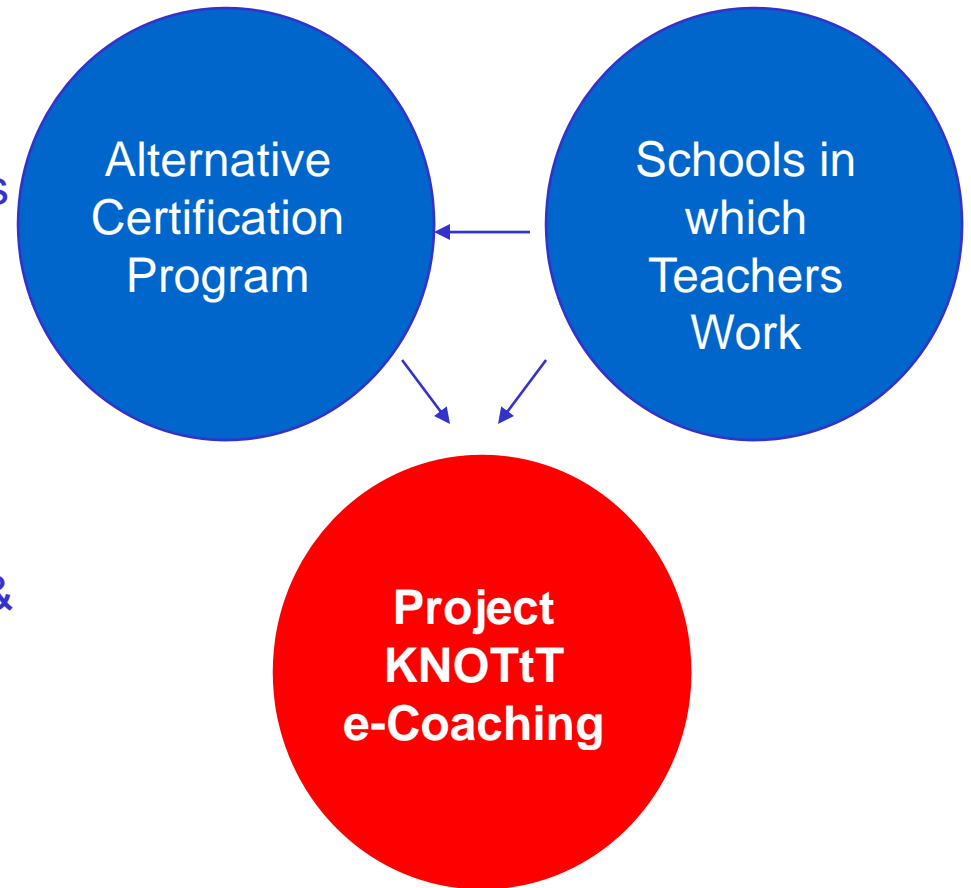
# Supporting Teacher Learning with KNOTtT e-Coaching

- E-Coaching content informed by
  - Licensure exams content
  - AC communication
  - Meetings with district subject-matter coordinators
  - Teachers' voiced needs
- E-Coaching mechanisms
  - Exam preparation (PD)
  - Discussion of practice issues (PL)



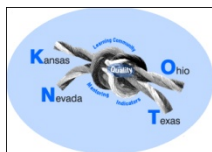
# E-Coaching: A Potential New Context for Self-Efficacy Development

- Contexts that influence self-efficacy development
  - Teacher preparation programs
  - Teaching settings
- KNOTtT offers a different type of learning context
  - Virtual learning context
  - Connected, yet separate from teacher preparation program & workplace



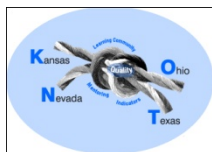
# Research Questions

- Is there a relationship between teachers' KNOTtT e-coaching participation and their sense of self-efficacy?
- What design changes might Project KNOTtT consider as it aims to positively impact participating teachers?



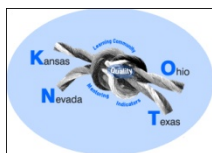
# Research Design

- *Mixed methodology*
- *Survey Instrument*
  - *Teachers' Sense of Efficacy Scale* (Tschannen-Moran & Hoy, 2001).  
*Three dimensions:*
    - Teachers' self-efficacy in student engagement
    - Teachers' efficacy in instructional strategies
    - Teachers efficacy in classroom management
  - Open-ended questions about Project KNOTtT, e-coaching, and teachers' descriptions of valuable learning experiences



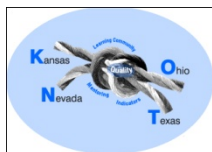
# Data Collection

- Pre-survey administered in **Oct 2009**
  - Purpose of survey was to establish baseline data regarding teachers' participation in KNOTtT e-coaching and sense of self-efficacy
  - Online survey emailed to 83 new teachers trained through Dallas ACP and teaching in Dallas ISD
- Follow-up surveys will be deployed in **Mar & Jun 2010**
  - Purpose of surveys will be to measure growth in teachers' sense of self-efficacy



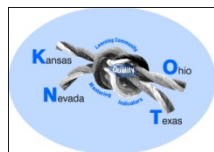
# Data Analysis

- SPSS used to run descriptive and inferential statistics
- One Way ANOVA for initial comparison of mean scores & to examine correlations between variables
  - Dependent variable: self-efficacy survey mean
  - Independent variables: geographic location, gender, ethnicity, certification, age range, grade level taught, number of KNOTtT e-coaching sessions, number of KNOTtT face-to-face sessions



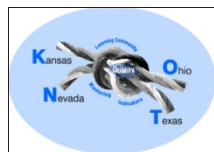
# Summary of Descriptive Data

- N = 71 (~85%)
- GENDER
  - Female: n=38 (~54%)
  - Male: n= 33 (46%)
- ETHNICITY
  - Hispanic: n=23 (32%)
  - African American: n=21 (30%)
  - White: n=20 (28%)
  - Asian: n=7 (10%)
- SUBJET AREA
  - Math: n=36 (51%)
  - ESOL: n=13 (18%)
  - Special Ed: n=9 (13%)
  - Science: n=7 (10%)
  - Language Arts: n=3 (4%)
  - Foreign Language: n=3 (4%)
- AGE RANGES
  - 30-39: n=27 (38%)
  - 20-29: n=23 (32%)
  - 40-49: n=13 (18%)
  - 50-59: n=7 (10%)
  - 60-69: n=1 (1%)



# Findings

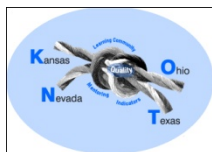
- *Significant difference found in the grade level being taught.*
  - Based on one-way ANOVA, elementary and high-school teachers scored themselves significantly more positive on self-efficacy than did middle school teachers.
- *Open-ended survey data suggests that teachers who participate in KNOTtT value and benefit from the learning opportunities*



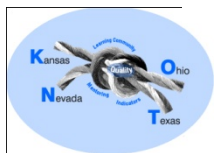
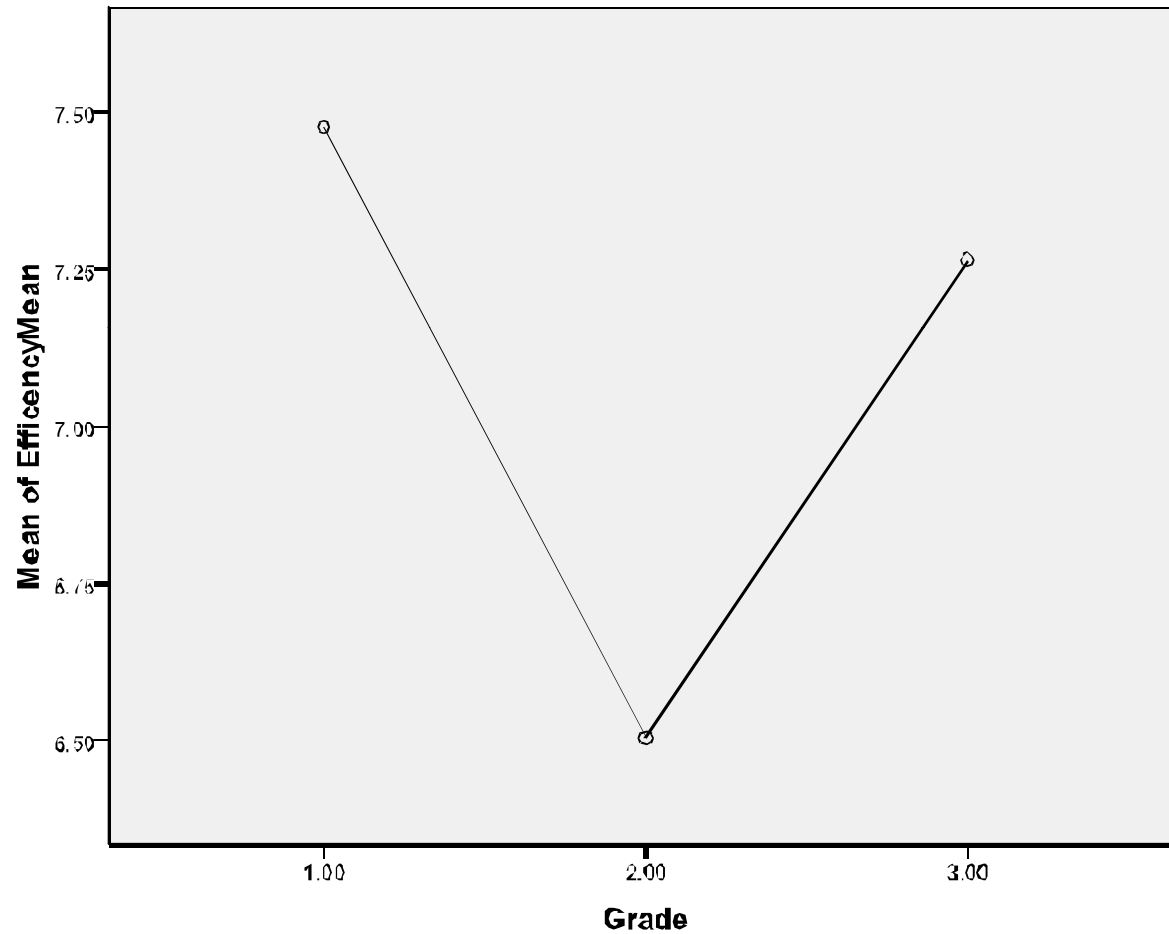
# Descriptive Statistics of Self-Efficacy Scores for 3 Grade Levels

The table below provides the descriptive statistics of the self-efficacy score for each group

	n	Mean	Std Deviation
Elementary	25	7.477	1.020
Middle	18	6.504	0.794
High	28	7.265	1.139
Total	71	7.147	1.077



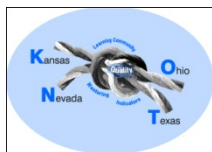
# Self-Efficacy Differences by Grade Taught



# ANOVA: Inferential Statistics

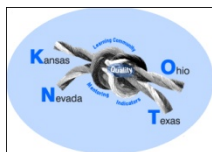
Comparing Self-Efficacy Scores for each Grade Level

		Mean Differences	Standard Error	Significance
Elementary	Middle	.97291	.31521	<b>.008*</b>
	High	.21180	.28058	.732
Middle	Elementary	-.97291	.31521	<b>.008*</b>
	High	-.76111	.30806	<b>.042*</b>
High	Elementary	-.21180	.28058	.732
	Middle	.76111	.30806	<b>.042*</b>



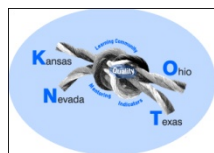
# Teachers' Perceptions of e-Coaching

- Learned about teaching
- Influences on teaching practice
- Licensure exam preparation
- Support beyond KNOTtT participation



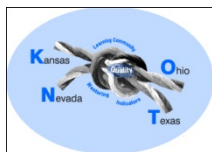
# Learned about Teaching

- N = 42 (59% of 71)
- 51% of 42 reported that KNOTtT helped them learn more about teaching
  - Use of mathematics manipulatives in the classroom
  - Classroom management strategies
  - Strategies for motivating and engaging students
  - Importance of content knowledge in being an effective teacher
- 49% reported that KNOTtT had not helped them yet primarily because they were unfamiliar with KNOTtT or just recently introduced to the program



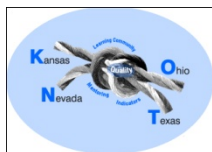
# Influences on Teaching Practice

- N = 36 (51% of 71)
- 40% of 36 reported that KNOTtT had an influence on their teaching practice
  - Attempts to apply content & pedagogical content knowledge learned in KNOTtT to teaching practice
  - Attempts to enact classroom management strategies
  - Attempts to enact strategies for motivating and engaging students
- 60% reported that KNOTtT had not helped them yet primarily because they were unfamiliar with KNOTtT or just recently introduced to the program
  - Two teachers mentioned that they were not yet able to make use of strategies learned through participation in KNOTtT



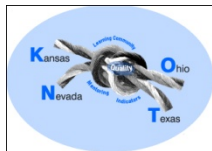
# Licensure Exam Preparation

- N = 42 (59% of 71)
- 48% of 42 reported that KNOTtT helped with exam preparation
  - Assisted with reviewing exam content
  - Reviewed content some teachers learned years ago and had forgotten
  - Reduced exam anxiety
  - *Many teachers specifically mentioned e-coaching as helpful, not just the training modules*
- 52% reported that KNOTtT had not helped them yet
  - Teachers who passed their licensure exams were not required to participate in KNOTtT
  - Many teachers intended to use KNOTtT to prepare for upcoming licensure exams

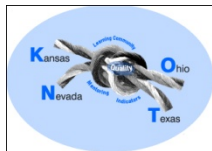


# Support Beyond KNOTtT

- N = 45 (63% of 71)
- 96% of 45 mentioned other supports they valued as new teachers
  - AC program and staff
  - Formal and informal mentors in their school/district
  - Teacher colleagues
  - The district as a whole

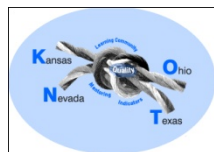


# A Discussion of Lessons Learned



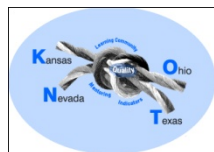
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# *Question & Answers*

KNOTtT web site: <http://knottt.net/>

Belinda Gimbert email: [gimbert.1@osu.edu](mailto:gimbert.1@osu.edu)

**THANK YOU!**

