



National Center for **Research** on  
**Rural** Education (R<sup>2</sup>Ed)

*Advances of the National Center for Research on  
Rural Education (R<sup>2</sup>Ed)*

Susan M. Sheridan, PhD, Director  
Co-Directors: Drs. Todd Glover, Gwen Nugent,  
Gina Kunz, Jim Bovaird



# National Center for Research on Rural Education (R<sup>2</sup>Ed)

Housed in the *Nebraska Center for Research on Children, Youth, Families and Schools (CYFS)* at UNL

Funded by Institute for Education Sciences, U.S.  
Department of Education (7/2009 – 6/2014)

Research contributes to data-based understandings of *what works, for whom, and under what conditions* in the rural context, in the areas of instruction/education, professional development of teachers, and related issues (e.g., family-school partnerships)



# Brief Overview of R<sup>2</sup>Ed

## *Goal:*

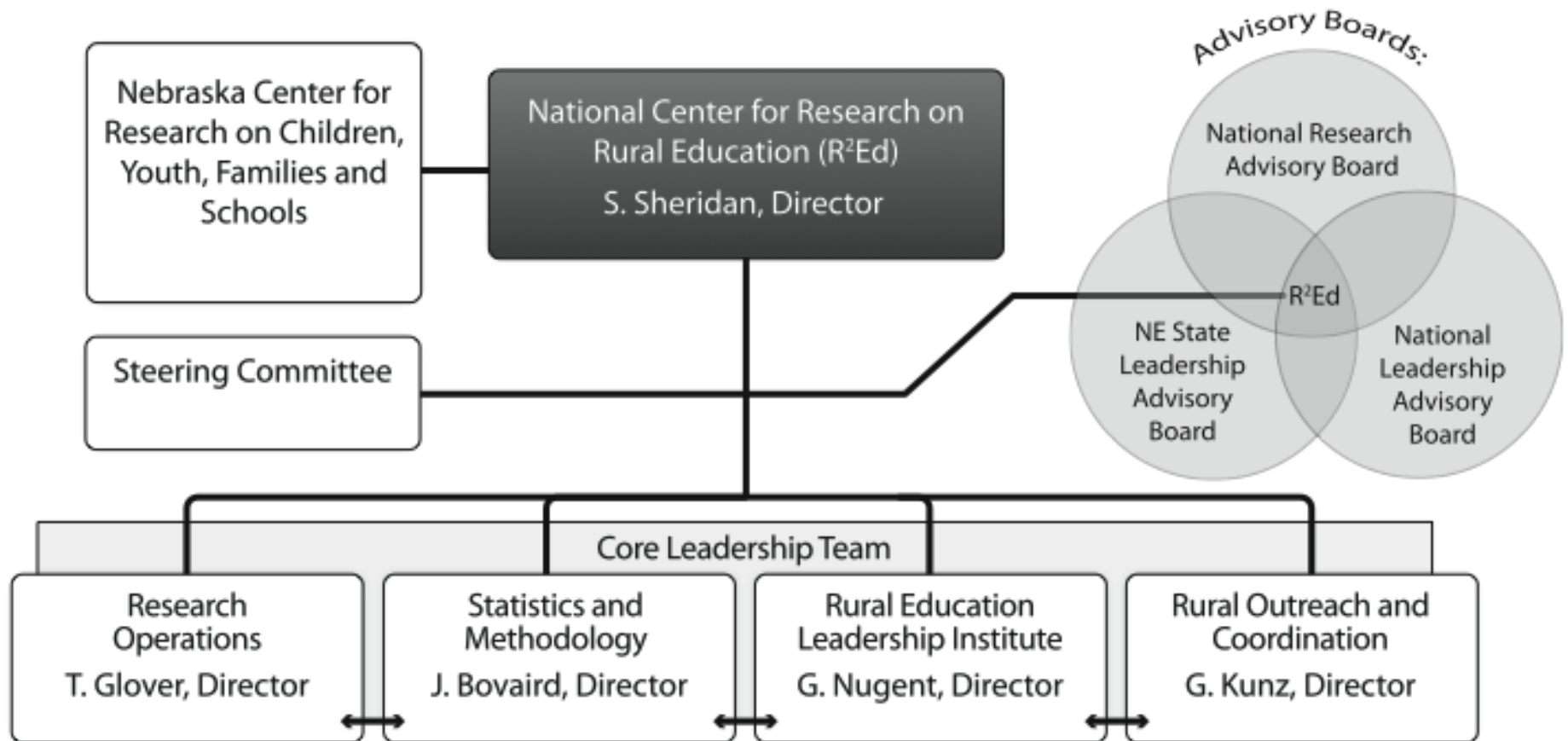
To advance and support the scientific foundation for education in rural settings

## *Immediate Aims:*

- ✓ To identify effective practices that lead to the provision of evidence-based interventions for reading and science instruction
- ✓ To identify effective school, teacher, and family supports to help advance student learning
- ✓ To create and provide an infrastructure for research and outreach for the field



# Organization of R<sup>2</sup>Ed



# Shared Leadership Initiatives:

## Outside In and Inside Out

### *Outside In*

- “Listen and Learn”
- Coalesce a Knowledge Base

### *Inside Out*

- Share a Knowledge Base
- Develop Future Leaders in Rural Education Research



# Outside In: Listening, Learning

## *Needs Identified:*

- Evidence for teacher support
- Distance education technologies
- Strong connections with leadership
- Effective methods of dissemination to bridge the gap between research and practice



# Outside In: Coalescing a Knowledge Base

## *Expert Consultants/Visiting Professors*

- Creating Rural Connections Series

Dr. Carolyn Denton: Student Focused Coaching

Dr. Jim Knight: Instructional Coaching for Rural Teachers

Dr. Cathy Cavanaugh: Online Professional Development

- Advances and Opportunities Series

Dr. Lou Cicchinelli: Innovation in Rural Education

- Research Methodology

Dr. David Cordray: Implementation Fidelity

Dr. Larry Hedges: Randomized Controlled Trials (RCTs)



# Inside Out: Sharing a Knowledge Base

*Rural Center Website* [r2ed.unl.edu](http://r2ed.unl.edu)

## Key Features

- **Speaker Series**
  - Links to the presentations through both Speaker Series
  - Links to presentations on Statistics and Methodology topics
- **Research Digests**
  - Written summaries of local and national researchers' publications and video-based interviews with them of their research
- *Rural 360°: Reaching Researchers, Educators, and Communities* - electronic newsletter





# Inside Out:

## Developing Future Research Leaders

- Post-doctoral Research Fellowship Program

- ✓ Danielle Parisi

- Focus: Data-based decision making
- Background: School Psychology

- ✓ Sue Ellen DeChenne

- Focus: Guided science inquiry and coaching
- Background: Science Education

- ✓ Ji Hoon Ryoo

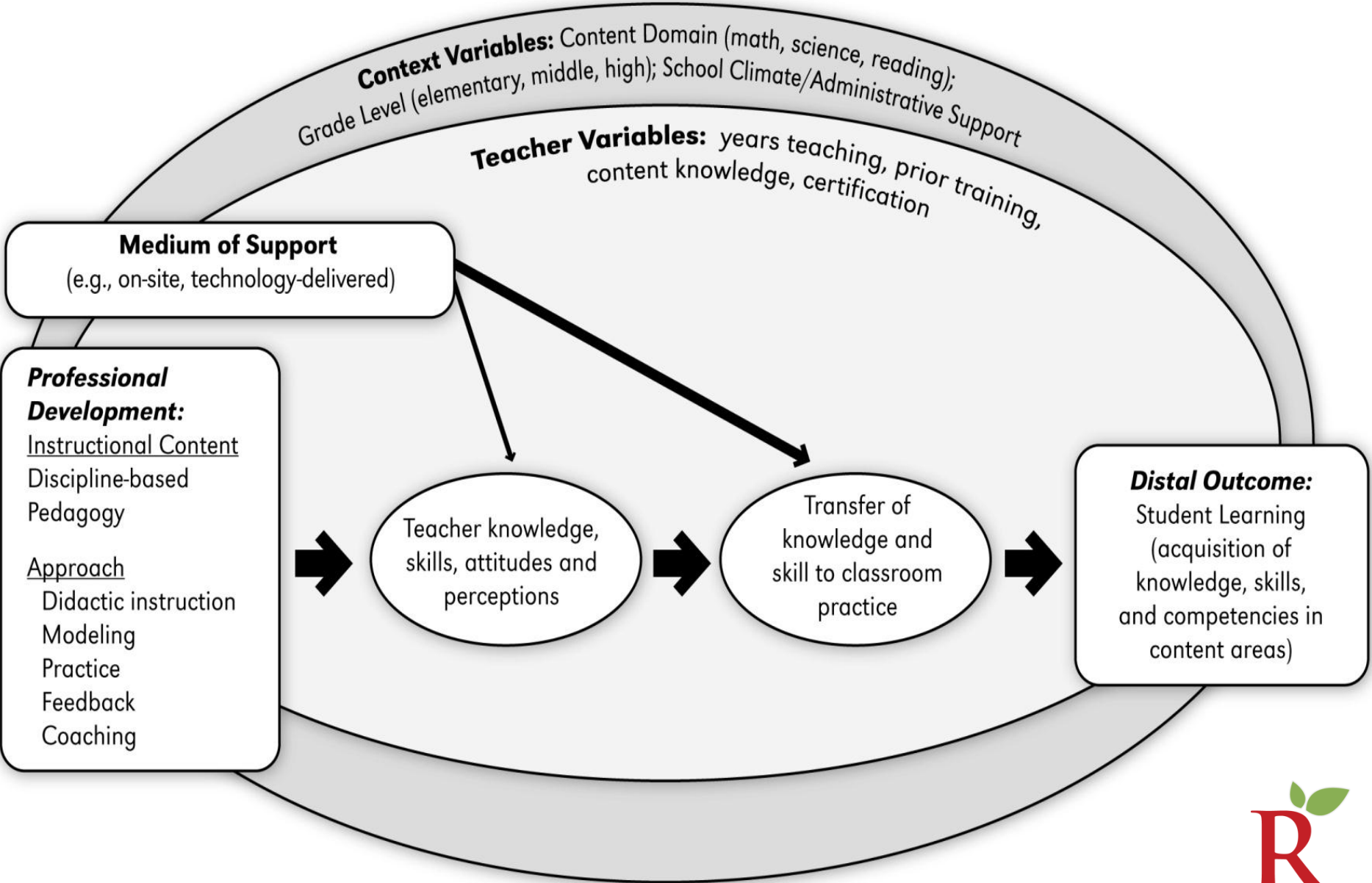
- Focus: Quantitative methods
- Background: Statistics and Research Methods

- ✓ Andy Garbacz

- Focus: Family-school partnerships
- Background: School Psychology



# Theory of Change for Professional Development



# Professional Development Framework

Process	Approach	Definition
Assessment (identification of student needs)	Self-report	Teacher appraisal of student knowledge, skills, needs, and/or capabilities
	Direct observations	Direct, objective assessment of student performance
	Progress monitoring	Teacher-administered probes document students' performance
Promotion of knowledge/skills	Content instruction	Evidence-based, domain-specific information presented by content experts
	Modeling	Demonstration of effective instructional strategies by coaches
	Practice	Enactment of newly learned skills by teachers
	Feedback	Written and/or verbal evaluations of teacher practice
Skill transfer (classroom implementation)	Coaching/consultation	Individualized coordination and oversight by coaches, from training through classroom implementation



# Growing a Research Profile

- Teachers Speak (National survey of professional development)
- Project READERS (Randomized controlled trial; RCT)
- CBC in Rural Communities (RCT)
- Starting Off Right (Secondary data analysis)
- Coaching Science Inquiry (CSI): Rural Schools (RCT)



# Professional Development Survey Study: *Teachers Speak*

## Introduction/Rationale (cont.)

- Investigates PD in 4 areas:
  - Reading
  - Science inquiry
  - Mathematics instruction
  - Teachers' use of data to inform reading instruction/intervention
- Findings useful for informing:
  - Future PD in rural schools
  - Ongoing research on PD



# Professional Development Survey Study: *Teachers Speak*

## Participants

- Randomly selected from national NCES database
- Sample included 268 rural and 327 non-rural K-5 teachers from 43 U.S. states
- Within each locale, sample was stratified by school size



# Professional Development Survey Study: *Teachers Speak*

## Procedure

- Surveys mailed in April and September of 2010
- Small incentives were provided to teachers (pen, sticky notes, and tote bag)
- Surveys returned via prepaid envelope
- Teachers responded to questions about their ***best professional development experience within the past year pertaining to one of four content areas***



# Professional Development Survey Study: *Teachers Speak*

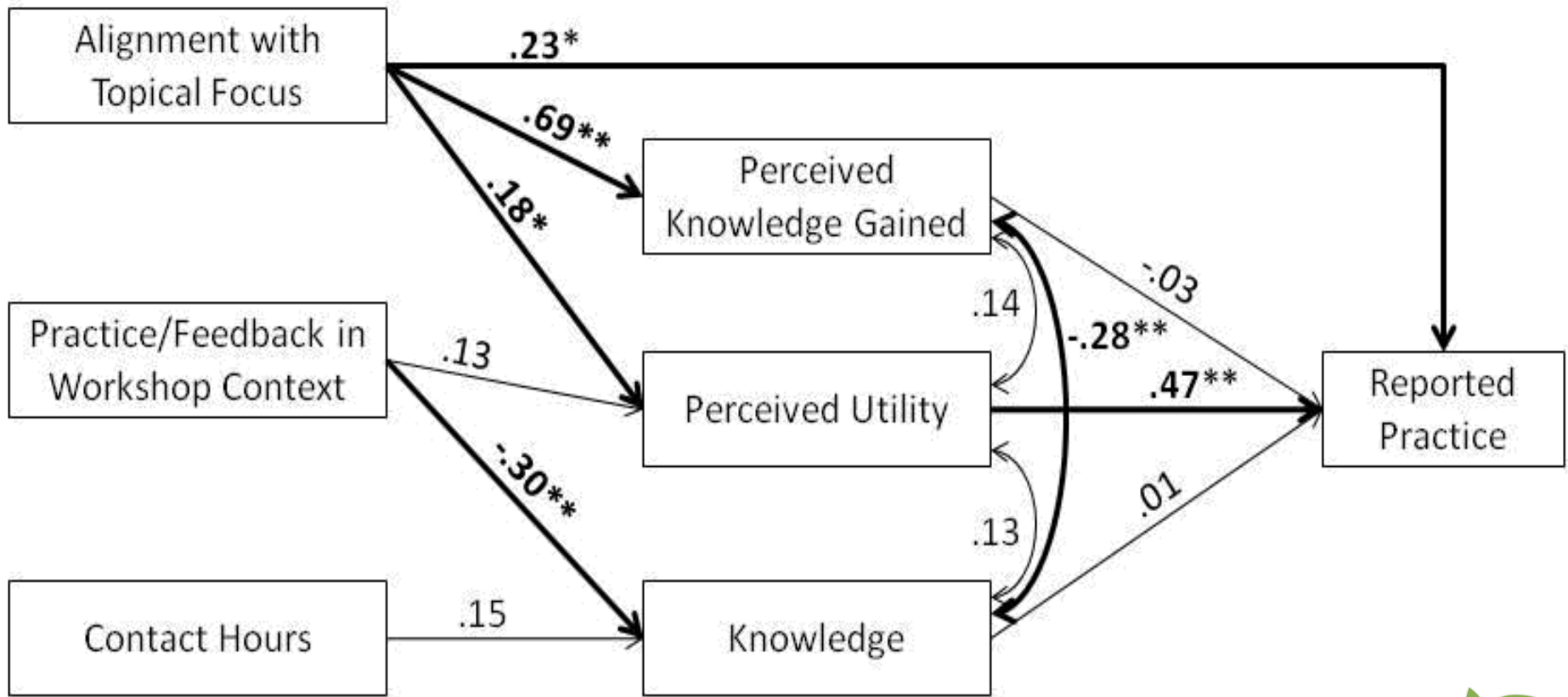
## Key Descriptive Survey Results

- Many similarities existed across rural and non-rural teachers with regard to professional development
- Interesting differences
  - The format and method of professional development
  - The leader of professional development experiences
  - Amount of interaction and collaboration
  - Difference in distance traveled
  - Time and duration
  - Topical Alignment





# Rural Analytic Model for the *Teachers Speak* Survey Study of Professional Development



# Project READERS

## Purpose of Study

- Purpose of this study is to investigate the efficacy of two variations of teacher PD with coaching in the use of student data to inform K-5 reading instruction/intervention:
  - PD with distance (web-based) coaching
  - PD with on-site (face-to-face) coaching



# Project READERS

- Approximately 360 rural classrooms teachers (3 from each of 120 participating schools) and their special education and/or Title I support staff
- Three-cohort, randomized experimental design with 120 schools randomly assigned to one of three conditions
  - *No PD, PD with onsite (face-to-face) coaching, PD with distance (web-based) coaching*
- Teachers in PD conditions participate in institute-based PD accompanied by either distance or onsite coaching



# Project READERS

- Distance technology is an effective means of providing coaching, instructional observations, and feedback
- Teachers are equally satisfied with distance and face-to-face coaching and feedback
- Both modes of delivery increase teachers' self-efficacy for using data to make instructional decisions for their students
- Study will conclude in June, 2014




# CBC in Rural Communities

- One of two studies studying parent involvement in rural settings
- Purpose is to examine efficacy of CBC on teacher, parent and student outcomes (social, behavioral, academic) in K-3
  - Structured support model that increases parent involvement and family-school partnerships to promote student goals
- Two conditions: CBC (experimental) and business as usual (control)
- 90 teacher participants (1-3 students/parents per classroom)



# CBC in Rural Communities

## Preliminary Findings

- Participants in CBC condition reported increased parent-teacher cooperation and improved student behaviors as a result of participation
  - Participants in CBC expressed high levels of satisfaction with consultation services in rural schools
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# Starting Off Right

- Purposes are to:
  - examine the influence of setting (rural, town, suburb, city) on family and school variables that predict school readiness and academic achievement
  - understand whether setting affects the impact of preschool parental involvement on kindergarten school readiness
- Using data from the Early Childhood Longitudinal Study- Birth Cohort (ECLS-B)



# Starting Off Right

- Preliminary analyses indicate some moderating effects of setting on
  - Family and school variables that predict parent involvement (certain family and school factors predict involvement differentially for rural and other settings)
  - Family and school variables that affect school readiness (certain family and school factors predict readiness differentially across settings)
  - The relationship between preschool parent involvement and school readiness (certain relationships between parent involvement and children's school readiness are influenced by the setting in which children reside)





# Coaching Science Inquiry (CSI): Rural Schools

- Test the efficacy of guided science inquiry professional development with instructional coaching on teacher and student outcomes
- Two conditions
  - Experimental: Professional development for middle and high school science teachers on guided science inquiry plus distance-delivered instructional coaching
  - Control: “business as usual” – no professional development or coaching
- 162 teacher participants: 81 in each condition
- First PD Summer Institute is June 2012
- Piloted measures and procedures with positive responses from 10 teachers and 7 coaches in 2011



# Comparison of Guided Inquiry Instruction to Common Practice

## Guided Inquiry

- Students gather data
- Students synthesize and analyze data
- Teacher guides students to articulate concept from the data
- Further application/elaboration of concept

• Cobern et al., 2005; Wilson et al., 2010

## Common Practice

- Introduce content through a formal presentation
- Verify content through demonstration
- Practice content through laboratory exercise
- Answer textbook or worksheet questions about content

Hudson et al, 2002; Weiss et al., 2003



# SAVE THE DATE:

## R<sup>2</sup>Ed National Conference Fall 2012

### *Promoting Academic Success of Rural Students: Translating Research into Practice*

- Omaha, Nebraska
- Details to follow at [www.r2ed.unl.edu](http://www.r2ed.unl.edu)



# Contact Information

## R<sup>2</sup>Ed Leadership

- Susan M. Sheridan, Director, *R<sup>2</sup>Ed* and *CYFS*
- Todd A. Glover, Director, *Research Operations*
- Gwen Nugent, Director, *Rural Education Leadership Institute*
- Gina M. Kunz, Director, *Rural Outreach and Coordination*
- James A. Bovaird, Director, *Statistics and Research Methodology*

## **National Center for Research on Rural Education (R<sup>2</sup>Ed)**

University of Nebraska-Lincoln

216 Mabel Lee Hall

Lincoln, Nebraska 68588-0235

Phone: (402) 472-2448

Website: <http://r2ed.unl.edu>

