



National Center for **Research** on
Rural Education (R²Ed)

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

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Co-Directors: Drs. Todd Glover, Gwen Nugent,
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Brief Overview of R²Ed

Goal:

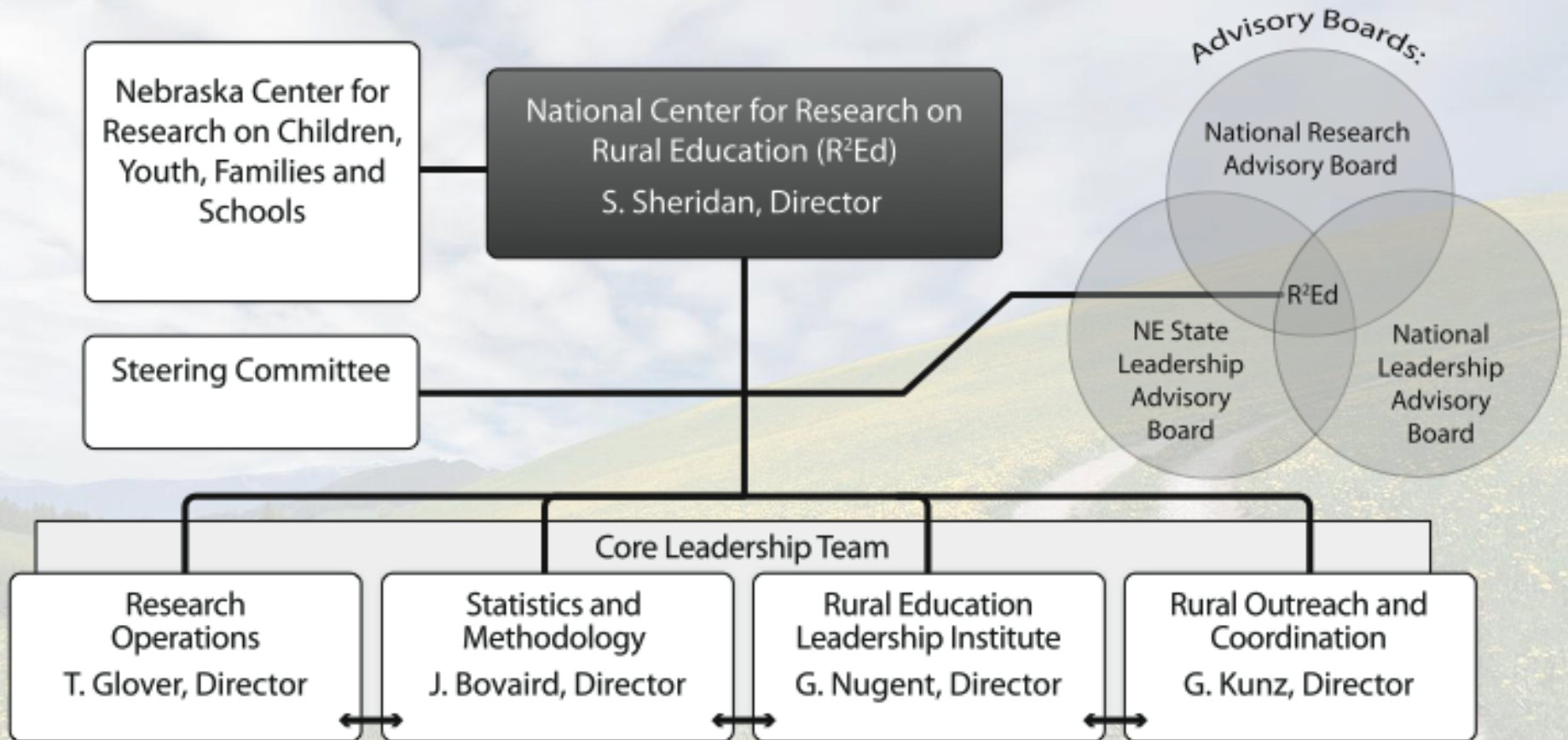
To advance and support the scientific foundation for education in rural settings

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 R²Ed



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

- ✓ Effective Coaching
- ✓ Coaching in Rural Schools

- Methodology Series: Randomized Trials

Dr. Peggy McCardle: NICHD

Dr. David Cordray: Vanderbilt University

Dr. Larry Hedges: Northwestern University



Inside Out: Sharing a Knowledge Base

Rural Center Website

www.r2ed.unl.edu

R²Ed Research Publications

- Targeted Research Reviews
 - ✓ Professional Development for Teachers in Rural Settings
 - ✓ Family-School Connections in Rural Settings
 - ✓ Extended Learning: Out of School Time Programs in Rural Settings



Inside Out: Sharing a Knowledge Base

R²Ed Research Publications

- Research Digests (select examples):
 - ✓ Parent and peer correlates of prosocial development in rural adolescents: A longitudinal study (Carlo, Crockett, Randall, & Roesch, 2007)
 - ✓ Individual and familial stressors among rural Nebraskan, bilingual paraprofessional educators (Dalla, Lopez, Jones, & Xia, 2006)



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



Growing a Research Profile

- Professional Development: Rural & Non-rural
- Project READERS
- Coaching Science Inquiry: Rural Schools
(CSI: Rural Schools)
- CBC in Rural Communities
- Rural Language and Literacy Connections
- Mountain Prairie Upgrade Partnership-Early
Childhood-Deaf Education (MPUP-EC)
- Arts in Education



Professional Development Identification Study: Current Progress

Introduction/Rationale

- Although existing literature on PD, little is known about:
 - characteristics of PD in rural schools
 - impact of PD characteristics on rural teachers' perceptions, knowledge, and practice
- Addresses critical gap by investigating:
 - variations in existing rural PD practices
 - differences in PD practices between rural and non-rural settings
 - potential influence of PD aspects on rural teachers' knowledge, perceptions, and instructional practice
 - moderating effects of context and teacher variables



Professional Development Identification Study: Current Progress

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 reach on PD



Professional Development Identification Study: Current Progress

Participants

- Randomly selected from national NCES database
- Anticipate final sample of approximately 800 rural, 400 town, and 400 suburban/urban school teachers (late fall, 2010)
- Within each locale, sample was stratified by school size



Professional Development Identification Study: Current Progress

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 Identification Study: Current Progress

Measures

- Demographic Information
 - E.g., teaching assignment, degrees obtained, class size, class organization
- Characteristics of PD
 - E.g., topical focus, format, PD leader, total hours, time span, distance travelled, use of demonstration/ modeling
- Perceptions
 - E.g., perceived importance and knowledge of content-specific instructional topics/practices



Professional Development Identification Study: Current Progress

Measures (cont.)

- Instructional Content Knowledge
 - *Teacher Knowledge of Reading and Reading Practices* (Carlisle, Johnson, Phelps, & Rowan, 2008);
 - *Content Knowledge for Teaching Mathematics* (Learning Mathematics for Teaching, 2006)
 - *Data-based Decision Making Knowledge for Reading*
 - *Science Inquiry Instructional Knowledge*
- Reported Practice
 - extent to which content-specific instructional topics are practiced in classroom



Professional Development Identification Study: Current Progress

Pilot Psychometric Investigation

- Purpose
 - To develop and validate two knowledge measures:
 - *Data-based Decision Making Knowledge for Reading*
 - *Science Inquiry Instructional Knowledge*
- Participants
 - 371 elementary school teachers from multiple U.S. states
- Procedure
 - Initial items were developed based on concept maps
 - Conducted classical and IRT analyses to refine items

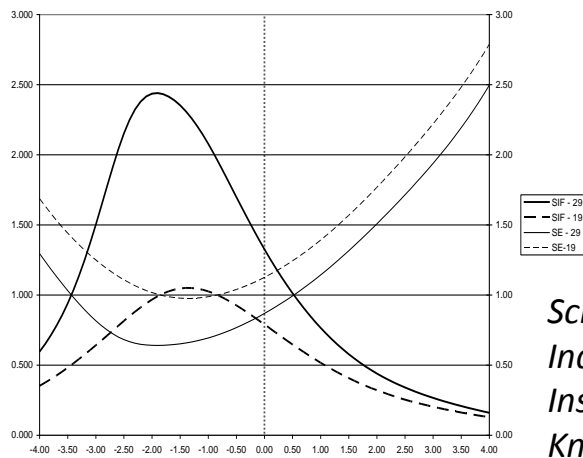


Professional Development Identification Study: Current Progress

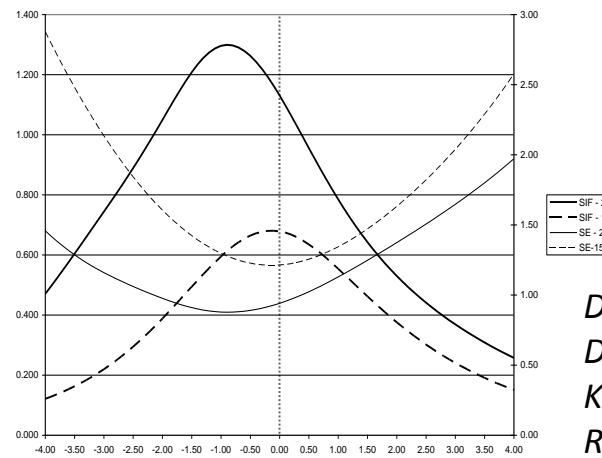
Pilot Psychometric Investigation (cont.)

- Results

- For both measures, original items yielded moderate internal consistency with wide variability in item difficulty and discrimination
- Item analyses and deletion resulted in:
 - changing the measures' appropriateness from ~ 1.5 to 2 SD below average to ~ 1.5 below average to average
 - increasing the breadth of applicability



*Science
Inquiry
Instructional
Knowledge*



*Data-based
Decision Making
Knowledge for
Reading*



Professional Development Identification Study: Current Progress

Preliminary Descriptive Survey Results

- Sample (N = 183)

	All Teachers (<i>n</i> = 183)	Rural (<i>n</i> = 116)	Non-Rural (<i>n</i> = 67)
Gender			
Male	7.2%	6.1%	9.1%
Female	92.8%	93.9%	90.9%
Ethnicity			
White, non-Hispanic	84.2%	83.6%	85.1%
Black, non-Hispanic	13.7%	15.5%	10.4%
Hispanic	1.6%	---	4.5%
American Indian/Alaskan Native	0.5%	0.9%	---
Years Teaching Experience	M = 15.53 (SD = 10.44)	M = 16.46 (SD = 10.95)	M = 13.96 (SD = 9.39)



Professional Development Identification Study: Current Progress

Preliminary Descriptive Survey Results

- A larger proportion of rural teachers participated in:
 - single professional development workshops
 - consultant-led professional development
- A smaller proportion of rural teachers participated in professional development led by colleagues
- A similar proportion of rural and non-rural teachers participated in workshops with coaching
- Most professional development for both rural and non-rural teachers was in-person



Professional Development Identification Study: Current Progress

Next Steps

- With the complete sample, assess descriptive differences in PD experiences between rural and non-rural teachers
- Using a multi-level path analysis, investigate the potential influence of PD characteristics on rural teachers' knowledge, perceptions, and practice
- Conduct exploratory analyses to assess the potential moderating influence of other relevant contextual and teacher variables



Project READERS: Update

Introduction/Rationale

- Reading is a critical prerequisite for all learning in school settings
- Unfortunately, access to quality and ongoing PD on reading instruction can often be a challenge for rural teachers
- Additional research is needed to assess the utility of efficient and effective PD approaches for rural teachers



Project READERS: Update

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: Update

Participants

- Approximately 360 rural classrooms teachers (3 from each of 120 participating schools) and their special education and/or Title I support staff

Research Design

- Three-cohort, randomized experimental design
- 120 schools randomly assigned to one of three conditions
 - *No PD*
 - *PD with onsite (face-to-face) coaching*
 - *PD with distance (web-based) coaching*



Project READERS: Update

Intervention Implementation

- Teachers in PD conditions participate in institute-based PD accompanied by either distance or onsite coaching on:
 - the use of data to identify students' reading needs
 - goal setting for individual students
 - implementation of research-based interventions based on identified student needs
 - ongoing monitoring of students' progress to determine the need for modification/adaptation of ongoing instruction/intervention



Project READERS: Update

Data Collection

- Teacher data
 - Reading instructional knowledge
 - Data-based decision making knowledge and skills
 - Teacher instructional logs
 - Videotaping of instructional sessions
- Student data
 - DIBELS
 - Woodcock Johnson Tests of Achievement – Reading
- Implementation fidelity data
 - Fidelity checklists
 - Video observations



Project READERS: Update

Current Progress

- Currently conducting study with 62 rural teachers and special education and/or Title I support staff from Cohort 1
- Teachers have begun receiving condition-appropriate PD with coaching
- Conducted initial baseline student and teacher data collection in August, 2010; teachers are currently completing logs
- This 3-Cohort study will conclude in June, 2014



Contact Information

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Thank you!

