National Center for Research on Rural Education (R^2Ed)

State of the Science of Teacher Professional Development in Rural Settings: A Comprehensive Review of the Literature

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Professional Development

- *Activities intended to help improve the performance of paid professionals in current or future jobs within schools or school districts* (Desimone, 2009; Little, 1987; Porter et al., 2003)
- Critical to teacher recruitment and retention, especially for rural schools
- Increases quality of education
- Greatly affects student outcomes
- Access for rural teachers is limited

Purpose

- Provide a “state of the science” regarding teacher PD in rural school settings
- Reviewing existing literature - conceptual & empirical
- Summarize various categorical breakdowns
- Reveal trends in the methodologies used in empirical articles
- Discuss implications and suggested future directions

Categorization of Literature

- Nature of the article (conceptual or empirical)
- Whether a definition of rural was provided
- Type of methodology used in professional development intervention studies
  - Quantitative
  - Qualitative
  - Mixed Methods

Method and Data Sources: Inclusionary Criteria

- Articles were selected that were published after 1995
- Articles must have purported to explore a rural population in some way
- Teacher participants were exclusively rural unless the methodology included a comparison between rural and non-rural participants
- Regular and special educator participants were included
- North America needed to be the target.

Method and Data Sources: Exclusionary Criteria

- Professional development targeting administrators, university faculty, and students in teacher education programs
- School personnel other than regular and special educators providing very specific services (e.g., those only working with hearing impaired or visually impaired students)
- Professional development in which both rural and non-rural teachers were included but not separated in the analysis

Method and Data Sources: The Search Process

- Searches in Education Resources Information Center (ERIC) through FirstSearch, Academic Search Premier, and PsycINFO.
- Keywords used were “rural” or “rural education,” “professional development,” and “teacher.”
- In addition, searches in two journals relevant to rural educational settings – *Journal of Research on Rural Education* and *Rural Educator* – were conducted with the keywords “professional development.”

Categorical Organization

- intent of professional development (content, pedagogy)
- distance component included (yes, no)
- conceptual (yes, no)
- design type (mixed methods, quantitative, qualitative)
- rural definition provided (yes, no)
- research questions addressed/purpose
- workshop component included (yes, no)
- coaching or mentoring component included (yes, no)
- subject area (math, science, other)
- outcomes
- implications for practice
- measurement/evaluation specifics
- grade level (elementary, middle, high)

Review Process Conduction

- Initially conducted by an advanced doctoral level graduate student in school psychology
- Approximately one year later, another doctoral level graduate student in school psychology reviewed and categorized the same articles for reliability purposes and updated the literature review with articles that had been published since the initial review
- 100% agreement among the articles that were reviewed initially
- We changed one of the inclusionary criteria (4 articles excluded)
- In addition, two methodologists (one quantitative and another qualitative and mixed methods) provided consultation on the categories used to review the nature of the methodologies in the empirical studies; the qualitative and mixed methods methodologist also served as a reliability check for the articles using those research designs

Findings

- 245 articles were initially identified through the search
- 66 articles were identified as meeting criteria for inclusion
- 17 (26%) conceptual; 49 (74%) empirical
- 25 of the 49 empirical articles (51%) were quantitative: 11 descriptive, 4 used a single group pre-test/post-test design, 1 used a longitudinal design, 5 used a quasi-experimental design, and 4 used an experimental design.
- 18 of the 49 empirical articles (37%) were qualitative: 6 case studies and 12 unspecified general qualitative design
- 6 of the 49 empirical articles (12%) used various mixed-methods designs.

Rural PD Target Populations

- The most common population targeted in the rural teacher PD literature was elementary teachers (46 of 66 or 70%):
  - 20/66 (30%) elementary, middle and high school (K-12) combined
  - 17/66 (26%) elementary only
  - 9/66 (14%) elementary and middle school
- Only 7/66 (~11%) were aimed at middle and/or high school only (excluding elementary)
- Note: 13/66 (~20%) did not specify the grade level targeted

Distance Technology and Definition of “Rural”

- 33 of the 66 (50%) included or addressed the use of distance technology
- 3 of the 66 (5%) provided a definition of what they intended by “rural”
  - none of the definitions were identical
  - each varied widely in terms of specificity

Journals with at least 2 articles

- *Rural Educator* (12),
- *Journal of Technology and Teacher Education* (6)
- *Journal of Research in Rural Education* (4)
- *Journal of Science Teacher Education* (4)
- *Rural Special Education Quarterly* (4)
- *Journal of Science Education and Technology* (2)
- *School Science and Mathematics* (2)
- In addition, 32 other journals published one article that met inclusionary criteria

Trends & Conclusions

- In the past decade, there has been an increase in the number of published articles on rural teacher PD
- The trend in the types of research designs being used in studies of rural teacher professional development has shown an increase in quasi-experimental in the past eight years and experimental in the past two years, indicating a wider breadth of research designs currently being used to study this topic
- The use of technology as the primary delivery method is not surprisingly high given the realities of reaching professional development for rural educators

Conclusions & Future Directions

- Elementary teachers have been the primary focus for rural teacher PD, with middle and high school teachers being included with K-12
- An expansion to middle and high school teachers (combined or as separate target populations) without elementary grade levels would increase the breadth of focus in rural teacher PD, meeting PD needs at the secondary grade levels

Conclusions & Future Directions

- Explicit definitions of “rural” were almost non-existent (only 3 of 66: 5%)
- This lack of inclusion of a definition of “rural” presents a huge hindrance to understanding the implications and greatly hinder generalization.
- In fact, Coladarci (2007) argues that if the constructs being researched are not inherently rural, then the research is simply educational research rather than contributing to our knowledge of rural education.
- Failure to account for the specific challenges faced by rural educators limits the degree to which conclusions may be drawn regarding the ways that rural schools are unique and what solutions best fit their needs.

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Thank You

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