

“For Better or for Worse” or Becoming one Community of Researchers in a Two-site Project

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In collaboration with

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AMTE

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Goals

- Share our collaborative work regarding a research study involving two teacher study groups
- Specifically
 - Detail the collaboration around our research study
 - Discuss current investigation about aspects of our collaboration
 - Analysis of methodological approach
 - Exploration of the nature of our collaboration

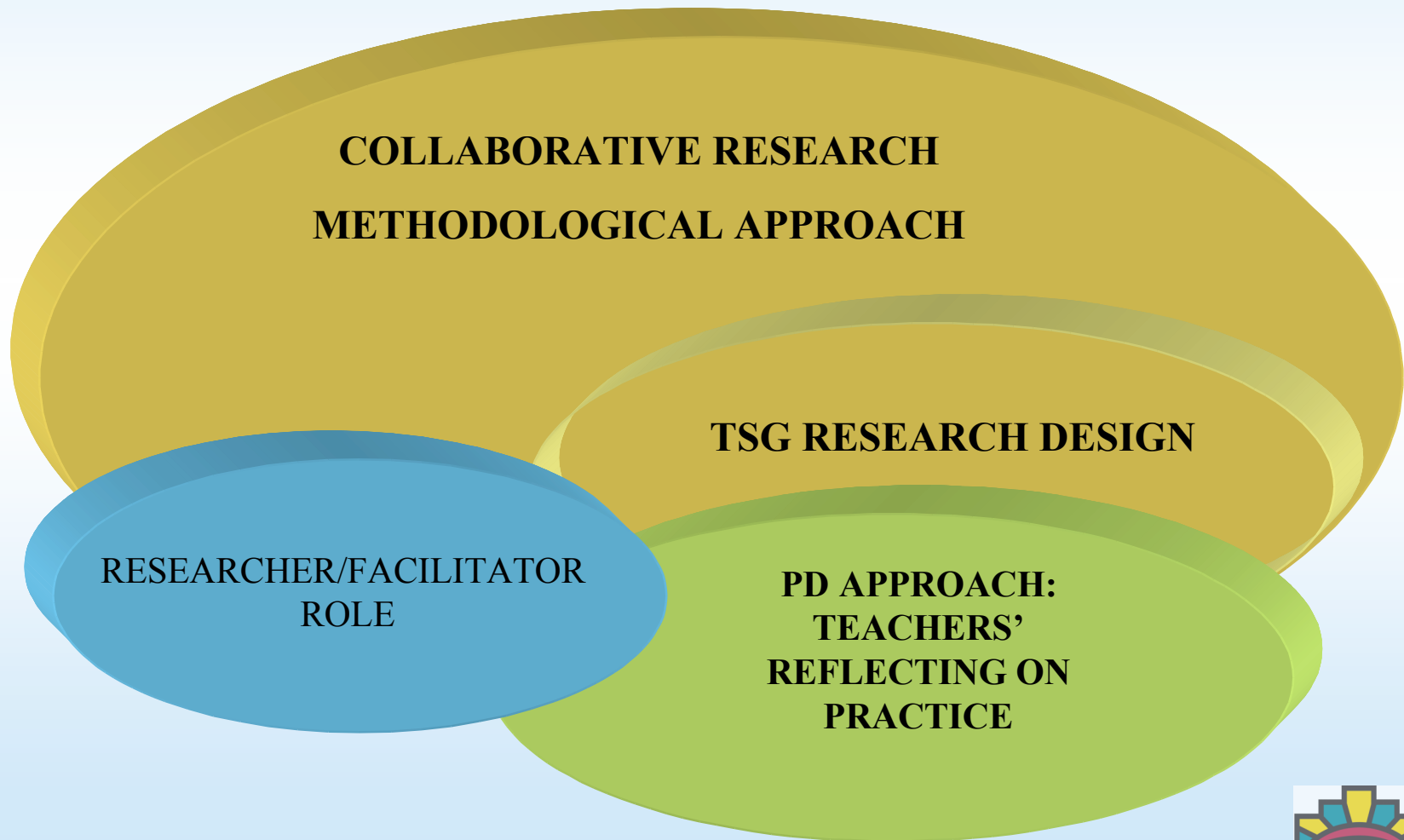
The Researchers

- Two universities in the Southwest members of CEMELA
- Four women, one man
- One monolingual English speaker, one somewhat bilingual, three bilingual (Native Spanish speakers)
- Three PhDs (Educational Thoughts and Sociocultural Studies, Mathematics, Mathematics Education), two doctoral students (Education)
- Former principal, special education specialist, PD government agency (in Latin America), 7th - 12th teacher (in Latin America), High school teacher, ...

Our Pathway to Collaboration

- I. Finding a common interest (9/25/06)
- II. Conducting the research
 - # Defining a research question (10/25/06)
 - # Designing the study (Jan & Feb 07)
 - # Collecting the data (Feb - May 07)
 - # Analyzing data (May - Dec 07)
- III. Proposal submission (Dec 07 - present)
- IV. Interpreting findings (Jan - March 08)
- V. Reflecting back on our collaboration (March 08 -)

Dimensions and Significance of our Cross-collaboration



II. Defining the Research Question

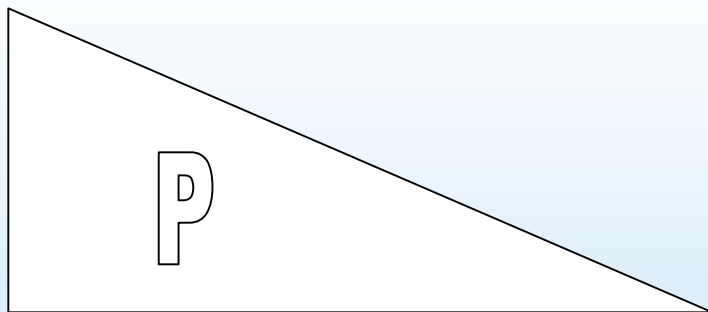
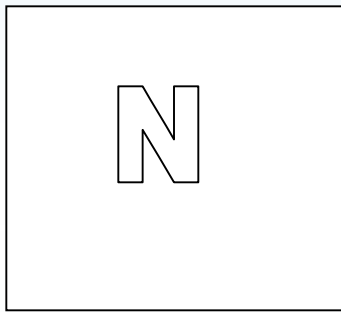
- **CEMELA wide research question:** What are the issues and/or challenges teachers face as they adapt or create instruction in mathematics to meet the needs of Latinos, particularly in light of language and culture?
 - **Refined Study Question:** What do teachers of Latino/a students reflect on as they discuss their mathematics instruction?

II. Designing the Study

- Goal: Professional development experience in which teachers could engage in collective inquiry
 - Teachers would be engaged in reflecting on the adaptation and implementation of a **NAEP measurement task**
 - High relevance task for teachers

Collaboration: NAEP Task

- 1996, 4th grade



6. Bob, Carmen, and Tyler were comparing the areas of N and P .



Bob: N and P have the same area

Carmen: The area of N is larger

Tyler: The area of P is larger

Who was correct? _____

Use pictures and words to explain why.

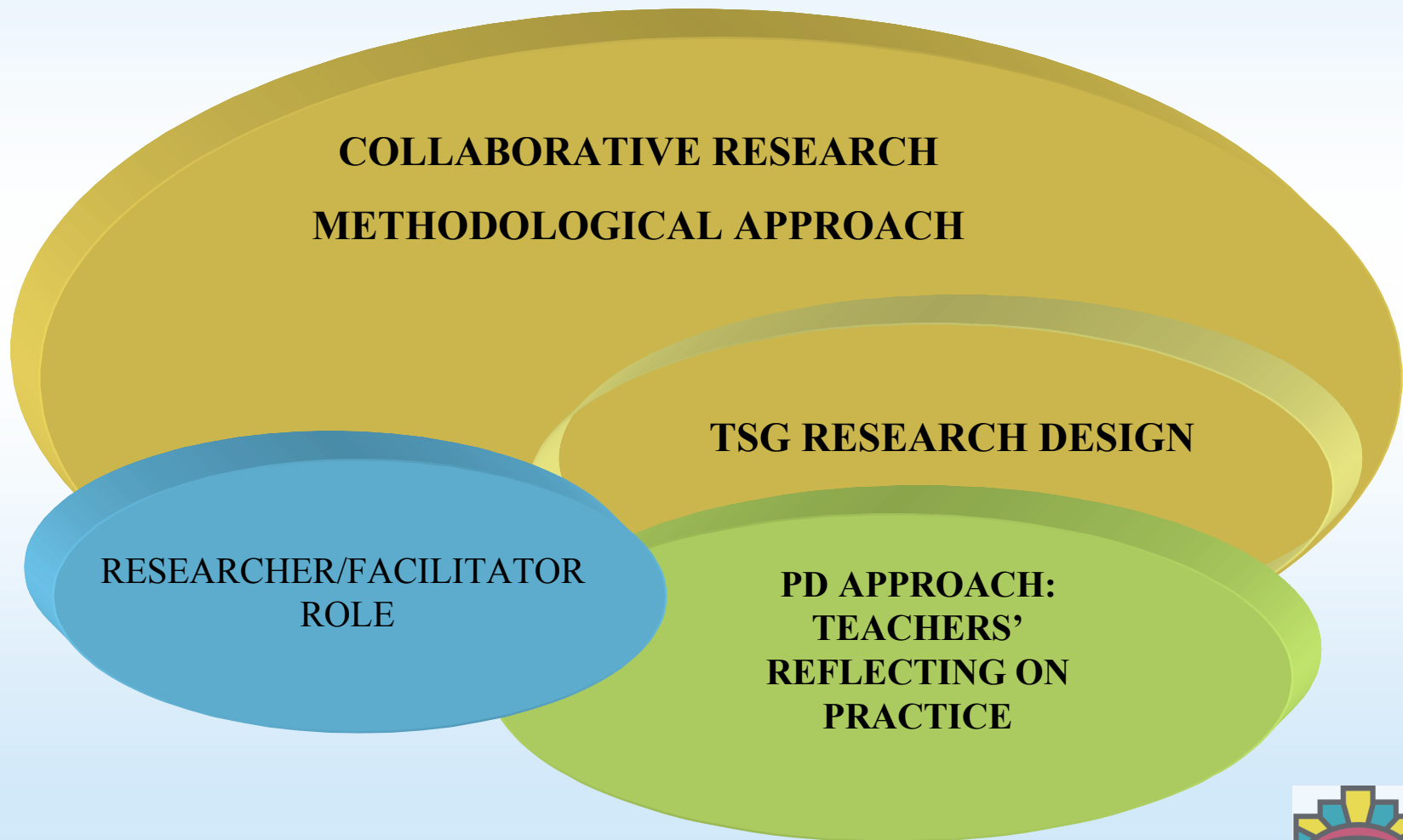
II. Collecting the Data

- ***TSG Session 1:*** Teachers explored and discussed the task
 - Session was videotaped
- ***Task Implementation:*** Teachers implemented the task
 - Six teachers videotaped (3 from each site)
- ***TSG Session 2:*** Teachers reflected on the implementation and analyzed student work
 - Session was videotaped and student work collected
- ***Post-implementation Interview:*** Video-interviews focused on teachers' reflections on implementation
 - Interviews were audiotaped or videotaped

V. Reflecting on the Collaboration

- **An exploration of the nature of our collaboration**
 - Overlapping of a professional development and a research approach
 - Negotiation of the role of researcher and PD facilitator
 - Reflections about diversity: What we reflected on
 - Shared assumptions (language, gender) were no evident
 - Expected: Professional experiences (e.g, principal focused on PD throughout development and analysis)
 - Surprises: Educational background not evident (e.g., Mathematician in the back), shared responsibility - not hierarchical

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V. Reflecting on the Collaboration

- Exploring “internal and external forces” impacting the group’s dynamics
 - CEMELA focus in collaboration
 - Work / school demands
 - Varying degree of involvement depending on the individual time available
 - Authorship
 - Explicitly negotiated taking turns in order of authors and lead
 - Professional membership
 - Taking initiative to submit to specific conferences

V. Reflecting on the Collaboration

- Strengths of a collaboration
 - Having access to a larger pool
 - Possibility for including different settings
 - Share skills, expertise, knowledge, etc. (design, implementation, analysis, interpretation, dissemination, ...)
- Possible challenges
 - Communication (Travel, phone conference, video conference)
 - Personality clashes
 - Conflicts of agenda
 - “One person team”
 - Inconsistent involvement

Discussion

- From your experience doing research in collaboration, is there something you would like to share?
- If you are thinking about having this kind of experiences in the near future, would you like to share your expectations, hopes, fears?
- If you have not thought about doing some collaboration, what do you see as attractive or as a detriment to try?

Thank you!



I. Finding a Common Interest

- Members discuss specifics of each TSG, including demographics and goals
- Focus on analysis of student work
 - UNM: CGI model (Carpenter et al., 1999) and Kazemi and Franke (2004)
 - UA: Informed by work of Arbaugh (2003) and Kazemi and Franke (2004)

TSGs at a Glance

UNM

- 3 elementary schools
- High percentage of Latino students and ELLs from low SES
- 8 teachers from K-5th
- 5-20 years experience
- 5 Latino/a and 3 Caucasian teachers

UA

- 3 elementary schools
- 90% Latino population and 31% of ELLs
- 10 teachers from 3rd-6th
- 5 to 35 years experience
- 7 Latino/a and 3 Caucasian teachers

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II. Designing the Study

- Goal: Professional development experience in which teachers could engage in collective inquiry
 - Decided that teachers should reflect on the adaptation and implementation of a **NAEP measurement task**
 - High relevance task for teachers
 - Latino students out-performed by white students on the measurement strand of the NAEP (Lubienski, 2003)
 - Latino students participate meaningfully through their mathematical discourse (Anhalt, Fernandes, & Civil, 2007)

II. Analyzing the Data

- Openly coded data (Strauss & Corbin, 1998)
 - Follow-up interviews and second study group session
- Individually (at each site) and collectively (across sites), repeatedly refined emerging coding categories
 - Frequency count
- Teams reviewed related literature
 - Reflection on practice; communities of practice; teaching practices that support ELLs

III. Interpreting the Findings

- **Teachers emphasized:**
 - creating open-ended highly engaging learning situations
 - developing students' academic language and using appropriate mathematical vocabulary
 - participating in PD that fosters ongoing opportunities for teachers to reflect on a concrete task and its impact on students' mathematical understanding

Some Preliminary Insights

- About our methodological approach:
 - Using “video-interviews” affords teachers the opportunity to **reflect on their practice**
 - Despite the TSG different contexts, the study design allowed for **comparative analysis**
 - The stages of the research design hold the potential of constituting a circle of **reflection** created **around task implementation**

Thank you!

- Your thoughts to help us nail this down?



Frequencies

- We found that the teachers reflected on...
 - Practices considered effective (143)
 - Factors that impact practice (69)
 - Expectations (23)
 - Issues raised about students or practice (46)
 - Knowledge of students (96)
 - Recognition about their practice (31)
 - Notions about teaching and learning (43)

Related Literature

- # Reflection on practice as a central component of professional development (Schön, 1983; Manouchehri, 2002)
- # Professional development as learning communities (Ball & Cohen, 1999; Franke & Kazemi, 2001; Kazemi & Franke, 2004)
- # Teaching practices that support Latino students and second language learners in the mathematics classroom (Khisty, 1997)