Collaborative Inquiry: Making Sense of Classroom-Based Data

The intention of the open research is to understand the composition of implementing and sustaining a supported collaborative teacher inquiry (SCTI) PD model. Extensive PD support for teachers ended after 2006-07. We are conducting 5+3-year PLC case studies across 3 school districts. Our research foci include:

- Science & mathematics teachers’ learning trajectories related to instructional practices, curricular goals, and student learning.
- How facilitators and school/district administrators frame and enact the notion of support for teachers engaged in SALT.
- The interactions between the teachers’ collaborative work and broader contexts

Case Study Data Sources:
Facilitator notes and reports plus annual interviews.
Individual and focus group interviews at least once per year.
Video and audio records (transcribed) from 3 summer academies, 2 mid-year.

Original Professional Development Model: PRiSSM
Three years (2004-2007) of professional development support for teachers to improve student learning through:
- Exploring high quality T&L
- Forming & facilitating PLCs
- Conducting supported collaborative inquiry

PRiSSM supports included: Week-long summer academies, annual year-end showcases, ongoing facilitation for PLC meetings, funds for coursework.
PRiSSM involved over 135 science & mathematics teachers from 22 schools in 6 districts.

Research Question
How do teachers in the Silver Valley PLC make sense of and use classroom-based data in their collaborative inquiry over three years?

Research Methods

Case Study Data Sources:
Video and audio records (transcribed) from 3 summer academies, 2 mid-year "mini" academies, 2 annual "showcases," most PLC meetings. Artifacts from academics and PLC meetings were also collected. Individual and focus group interviews at least once per year. Facilitator notes and reports present at most meetings.

PLC Setting:
3-year case study Small, rural school district Teachers met ~ 1/month, 1-3 hours PRiSSM facilitator present at most meetings.

PLC Inquiry Focus:
2004-2005 & 2005-2006: Improving teachers’ communication skills, especially their knowledge and use of important scientific and mathematical vocabulary 2006-2007: Investigating the effect of systematically and deliberately communicating learning objectives to students to student achievement

RESEARCH DESIGN

The teachers shifted from more simple designs, especially in Year 2, to a relatively complex design in Year 3. This was linked to emergent and collective teacher learning about an "improving" stance, how to analyze qualitative data, and how to use student data to inform instruction.

Implications: Those findings have important implications for administrators and PD providers. Teachers who engage in collaborative inquiry require significant supports regarding time – time for the groups to meet, time to collect and analyze data, and time to reflect.

Professional development activities should focus on how teachers can develop specific data analysis skills assisted by experiences that develop their competencies in the (changing) context in which the group worked.

RESULTS AND IMPLICATIONS

STANCE TOWARDS THE USE OF DATA
The teachers moved beyond representing their research design and shared data. How teachers were asked to "think about the research design" in a simple research design (especially Year 2) in a simple research design (especially Year 2) and Year 3: teachers used the research design to identify and analyze data, then to reflect.

STANCE: Consultation

To the teacher group, the data were relevant and important. The teachers moved beyond understanding the research design and used the research design data in their classroom teaching, as part of a simple research design (especially Year 2) and Year 3: teachers used the research design to identify and analyze data, then to reflect.

STANCE: Consultation

Year 2: The research design was used to inform practice
- Rick: "I think we're doing better in terms of..." (PLC meeting, Nov. 17, 2005)
- Maggie: "Well, we're not being clear on this or me in making events and second time. One issue is the learning opportunities..." (PLC meeting, Nov. 15, 2005)

Year 3: The research design was used to inform practice
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Assessment Stance: Improving to Praising
Do the data inform the teacher group's understanding of what is a acceptable for improving practice over a long or short term? Do the data exclusively provide summative information in a reconstructive reductive way that seeks to prove student learning gains, including results geared towards an external audience.

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