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AUTHOR   McCarty, T. L.
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ABSTRACT
               A study investigated factors supporting innovation in
American Indian education by comparing data from two separate
studies. One was a followup study of 25 Indian educators'
implementation of cooperative learning and whole language techniques,
which sought to identify: (1) the impact of the innovations on
student achievement; and (2) factors that enable or constrain
sustained pedagogical change. The second was a long-term ethnographic
study at Rough Rock, on the Navajo Reservation in northern Arizona.
The investigation's focus was on institutional and other structural
barriers to educational reform, beyond what occurs in the classroom.
It is argued that analysis of reform efforts must address factors
both within the instructional setting and in the school's
organizational structure and sociopolitical context. It is proposed
that such analysis is essential to understanding and transforming the
historically disempowering experiences of this population. (MSE)

Creating Conditions for Positive Change: Case Studies in American Indian Education

T. L. McCarty

CREATING CONDITIONS FOR POSITIVE CHANGE: CASE STUDIES IN AMERICAN INDIAN EDUCATION

T. L. McCarty

Abstract

Effecting lasting curricular and instructional reform in Native American schools requires change not only at the level of the classroom, but at the "macro" level of the larger social-political structure as well. This paper presents data from a one-year follow-up study of 25 Indian educators' implementation of cooperative learning and whole language strategies, and compares these findings to data from a long-term ethnographic study at Rough Rock, on the Navajo Reservation in northern Arizona. The comparative data reveal a complex array of "macro" and "micro" variables which alternatively enable or constrain pedagogical innovation and positive student outcomes. The implications of these findings for activating and sustaining positive educational change are discussed.

Introduction

In the fall of 1988, the Arizona Department of Education began a one-year follow-up study with 25 teachers, teacher aides and school administrators who had participated in an integrated staff development experience tailored to Native American schools.[1] The 25 educators represented four self-nominated Arizona school sites: Peach Springs, a K-8 school on the Hualapai Reservation with a nationally-recognized bilingual program (Watahomigie and Yamamoto, 1987); Sanders, a K-12 district adjacent to to the Navajo Reservation in northeastern Arizona; Rice, a K-8 public school on the San Carlos Apache Reservation; and

Sells Primary School, on the Tohono O'odham Reservation in southern Arizona (see Fig. 1 in the Addendum). Most of the 25 educators were Native Americans and bilingual in one of the four represented languages. All had participated for over a year in staff development sponsored by the state education agency, which focused on cooperative learning (e.g., Slavin, 1990; Jacob and Mattson, 1990), and the development of collegial coaching partnerships within and between school sites.[2]

Staff development included pre- and post-service activities tied to a four-week summer institute and to periodic on-site assistance by the project's principal investigators, Teresa McCarty and Margarita Calderón. Patterned after Calderón's highly successful Multidistrict Trainer-of-Trainers Institute (MTTI; see Calderón, 1982; 1986), these activities provided a foundation in bilingual education research, theory and practice, and the simultaneous opportunity to apply what Cummins (1989; 1991) describes as "empowerment pedagogies": communication-centered approaches emphasizing cooperative classroom structures, student inquiry and interactive, holistic language experiences. Following the inservices, educators returned to their schools to coach each other and colleagues, meeting periodically in study groups and with the principal investigators to discuss, critique and refine their own theories and use of new instructional approaches.

The follow-up study sought to identify the impacts of these instructional innovations on Native American students' school achievement, and the factors both within and external to local classrooms and schools that enable or constrain educators in activating and sustaining pedagogical change. The study's methodology was primarily naturalistic and ethnographic (e.g., Akasamit et al., 1990). Data collection included observational records and videotapes of classroom interaction, teachers' coaching logs, student writing samples, demographic site profiles, student achievement records maintained by the districts, and teachers' responses to questionnaires adapted from Calderon's (1982) *Innovations Configuration* (cf. Arizona Department of Education, 1988), and Hall and Rutherford's (1979) *Stages of Concern Questionnaire*. The educators themselves and their administrators collaborated in data collection and analysis.

This paper first reports preliminary findings from this follow-up research, and then compares this to findings from an ongoing ethnographic study at the Rough Rock Community School on the Navajo Reservation in northern Arizona (see Fig. 1; cf. McCarty, 1989; McCarty et al., 1991). While the follow-up study and the Rough Rock data document the benefits for Native American students of interactive, inquiry-based and cooperative learning-teaching strategies, research in each context also demonstrates the profound impact of school organizational and "macro" sociopolitical forces on educators' ability to

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[2]The aims of coaching went beyond technical mastery and the transfer of new skills and knowledge (e.g., Joyce and Showers, 1982), providing sustained opportunities for educators in the study to reflect on their teaching practice and on the organizational culture in which that practice was carried out. As a change strategy, coaching explicitly was not administratively imposed (cf. Hargreaves and Dawe, 1990). Instead, peer coaching became one aspect of a teacher-driven, educational-inquiry process designed to enhance mutual support and provide new forms of interaction between teachers, school administrators and teacher assistants.

implement positive pedagogical change (cf. Jacob and Jordan, 1987; Ogbu, 1987; Trueba et al., 1989; Hargreaves and Dawe, 1990). This paper argues that both "macro-" and "micro-" level analyses are essential to our understanding of what occurs and is feasible in Native American classrooms and schools. By extension, both levels of analysis are essential to understanding -- and transforming -- the historically disempowering experiences of Native American students in U.S. schools.

The Follow-up Study

Data from the four study sites confirm, first, dramatic improvements in students' oral and written language development associated with the use of cooperative learning. Over the one-year study period, all 25 educators actively and regularly used cooperative strategies, including paired reading, cross-age and peer tutoring, group investigation and a number of strategies adapted by Calderón for bilingual students (Calderón, 1990; cf. Durán, 1990; Tinajero, 1990; Slavin, 1990). For example, at Sells Primary School, the bilingual first grade teacher paired high and low ability readers and writers to promote active involvement in literacy events by students with heterogeneous backgrounds in O'odham and English. This allowed students with greater proficiency in O'odham to tutor peers learning O'odham as a second language, and also enabled the latter to tutor their O'odham-dominant peers in English. Simultaneously, as part of a "Community Readers" project, parents and grandparents joined students in paired reading in the classroom. Within a year, the teacher reported that time spent on reading had increased by over 100 per cent.

At the same school another first grade teacher reported her involvement in the training and coaching partnerships. She explained: "the training finally gave me the courage to throw out the workbooks and get students involved in *real* reading and writing." This teacher, like those at Peach Springs, Rice and Sanders, grounded cooperative learning within student-generated theme studies. Themes became the connectors between disciplines and content areas, enabling students to explore new content using multiple literatures and research strategies, and most importantly, their own prior knowledge and experience. All of this created a natural context for collaboration within the classroom, and between students, teachers and community resource people outside the classroom as well (McCarty and Schaffer, in press).

At Valley High School in the Sanders District, the language arts teacher also utilized thematic units to integrate language development with content area study. Themes selected by her Navajo students included love, fear, fantasy, success, and a study of the local community. But the "most exciting" offshoot of her participation in the staff development project, she reported, involved combining her eleventh graders with a ninth grade class and with her fellow teacher, implementing a cross-grade "anti-tracking" project. Most rewarding in this effort, the eleventh grade teacher said, was the autonomy teachers and students had in "determining what and how they're going to learn."

These instructional innovations, especially the move away from basals and commercial texts, generated an explicit sense of community and shared vision at each school site. All 25 educators expressed the common opinion that while their efforts were new to their districts and in some cases viewed skeptically,

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they were comfortable with the risks involved because they had collegial
support. That collegiality, moreover, was evident not only within school sites
but between sites, as educators at one school cooperated with those at other sites
to conduct district-wide inservices.

These changes are attributable in part   the opportunity for sustained
reflection by educators on their teaching practice and on the nature of the learners
and communities with whom they worked. The combined opportunities afforded
through the state education agency, and those created by key administrators at
each site, provided in one teacher's words, "a chance to share with others --
something I've never had before." The significance of such opportunities for
positive change cannot be underestimated. The teacher who reported throwing
out her students' workbooks, for instance, documented important changes in her
students' classroom behavior and achievement: attendance improved, the quality
and quantity of students' writing and verbal interaction increased, and one student
"on the verge of dropping out" remained to begin a new school year.

When we look at each site, then, we see several interrelated *conditions* that
to varying degrees facilitated educators' roles as change agents. First, each site
had a strong, supportive administrator -- a building principal or assistant
superintendent -- with long-term commitment to school change and
improvement. These administrators adjusted schedules, represented the staff
development program to higher-level administrators, created the time and
modified staff evaluation procedures to facilitate educator partnerships and the
"trying out" of new pedagogies. In short, they were advocates for their faculty,
establishing risk-free school environments where critique, change, and
experimentation were encouraged and indeed expected. These administrators also
became knowledgeable experts on cooperative learning and peer coaching
themselves, participating in staff development along with their teachers and
aides and thereby enhancing their role as a source of support and expertise.

We also see at each site a core of primarily local personnel – individuals
with an investment in the community and in the school's success. We see, too,
the presence of an external structure of financial and technical support from
outside agencies and individuals, which provided funding, recognition and a
relevant, nurturing context for professional development.

Finally, the participating educators brought immense personal and
professional strengths to the project which contributed to their own success. All
had been nominated by their schools as exemplary representatives of the district;
they were selected for the statewide project based on a written application that
was competitively ranked. These were highly capable, talented and motivated
professionals. Together, their diverse linguistic and cultural backgrounds created
a new pool of knowledge from which all could learn and grow.

These combined conditions were essential to promoting educators' roles as
agents of positive change. This becomes evident when any one of the conditions
is removed. At one site, for example, a controversial and emotionally charged
political upheaval resulted in the loss of several outstanding teachers and the
assistant superintendent supporting their efforts, and in a school board-imposed
shift back to conventional methods of instruction and "strict English phonics."
On a larger scale, the termination of the state agency's grant supporting the
project removed much of the infrastructure enabling educators within and
between sites to maintain their collegial partnerships.

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Causes for Conditions: A Comparative Example

Data from the four sites raise two important points. First, as has been observed for other student populations (e.g., Calderón, 1990; Durán, 1990; Goodman et al., 1991; Jacob and Mattson, 1990; Tinajero, 1990), cooperative learning in a whole language framework is an extremely promising instructional approach that enhances classroom interaction and the development of literacy and biliteracy among bilingual learners. Second, for these innovations to take root and demonstrate such impacts, educators require long-term, consistent administrative, collegial and financial support.

But in many American Indian communities, particularly reservation communities, such conditions are difficult to maintain. When they are not maintained, as the final case just described suggests, educational innovations can atrophy and even be radically reversed.

The case of Rough Rock, for which there exists similar but longer-term ethnographic data (McCarty, 1989; McCarty et al., 1991), is especially illuminating of the processes influencing these outcomes and instructional innovation in Indian schools. A small community in the center of the Navajo Reservation, Rough Rock resembles the follow-up study sites in its demographics and certain cultural features. Most of the district's 500 K-12 students are identified as having Navajo as their primary language. The Rough Rock school differs from the four study sites in that it is a federal grant school; Rock Rock was the first school to demonstrate the viability of local control by electing an all-Navajo governing board, but the board must annually negotiate its budget with the Bureau of Indian Affairs. In this reliance on federal funds, however, Rough Rock is not atypical, for lacking a local tax base, most reservation communities depend on federally-funded social service and educational programs to form the basis of their economies.

A major problem with this financial structure is its volatility; as federal education funds wax and wane, they alternatively generate and terminate academic programs and their associated pedagogies and staff. Teacher turnover at Rough Rock, for example, has in some years approached 99 per cent. Not surprisingly, Rough Rock students have not fared well in this context. Their academic performance, however, is less a function of any particular pedagogy than it is of the absence of a stable curriculum or pedagogy over time.

In this situation there are clear institutional and structural barriers to pedagogical reform. At one analytical level those barriers lie in the financial structure of reservation schools. At another level, the problems are a function of the sociohistorical relationship of Indian schools and communities to the larger society and in particular, to the federal government. Rooted in a legacy of colonialism, that relationship has institutionalized the dependence of reservation schools on a highly unstable financial structure -- in effect institutionalizing a system that undermines the quality of education available to Indian children, and impedes lasting pedagogical reform.

These "macro" variables and processes profoundly influence what is feasible at the "micro" level of the classroom. Change strategies, then, must address both levels. Without such multilevel change, pedagogical innovations such as

cooperative learning and whole language cannot be sustained. In their absence, Indian students and their teachers are subject to the rote drill, phonics-based pedagogies that continue to characterize Indian education, and that perpetuate both academic failure and the disabling social structure underlying it.

Conditions Necessary for Change

To fully realize the benefits of cooperative learning and related "empowerment pedagogies," Indian educators must find in their schools and communities supportive structures and conditions receptive to positive change. Research at the four study sites, as well as recent developments at Rough Rock, suggest possibilities for nurturing those conditions.

One of the more lasting benefits of Rough Rock's many federal programs has been the training and certification of local teachers. Most of these individuals began their teaching careers as classroom aides, and they thus share a long history of experience at the school. As community members, they have a vested interest in remaining at Rough Rock. Today, these teachers constitute the core of the elementary school faculty.

Since 1983, these Navajo teachers and their aides, under the guidance of two gifted Navajo supervisors and a supportive non-Indian principal married into the community, have adapted a Navajo version of the Kamehameha Early Education Program (KEEP), developed for Native Hawaiian students (Vogt et al., 1987). Like KEEP, the Navajo program emphasizes cooperative learning centers and collegial partnerships, but unlike the Hawaiian program the Rough Rock model includes bilingual instruction with the goal of developing biliteracy. Central to the Rough Rock program has been ongoing staff development and in the principal's words, "investing in people who are likely to stay." Thus, this program has begun to transform the *structure* of the situation by providing stability in both pedagogical approach and personnel.

While staff development efforts like the current one at Rough Rock, and those described earlier for the four study sites, can thus reduce the high teacher turnover that is a major cause of program instability and poor student outcomes, that alone is insufficient. For in most Indian schools, leadership still comes from the outside, leaders bring with them diverse philosophies often unrelated to local conditions, and their tenure is brief. The evidence from the case studies cited here suggests that if these conditions are to change, local educators must not only have the opportunity to implement cooperative, interactive, and student-centered pedagogies, they must also have the commitment and co-involvement of school administrators who are likely to stay with the program. This suggests that staff development programs within Indian schools and communities must build local, native educators' leadership skills, enabling them to move into the positions of instructional leadership historically held by outsiders.

As this occurs, we should expect significant improvements in the quality and stability of curriculum and instruction in Indian schools. We should also expect to see significant, positive changes in educational outcomes for Indian children.

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Addendum

Figure 1: Location of Case Study Sites*
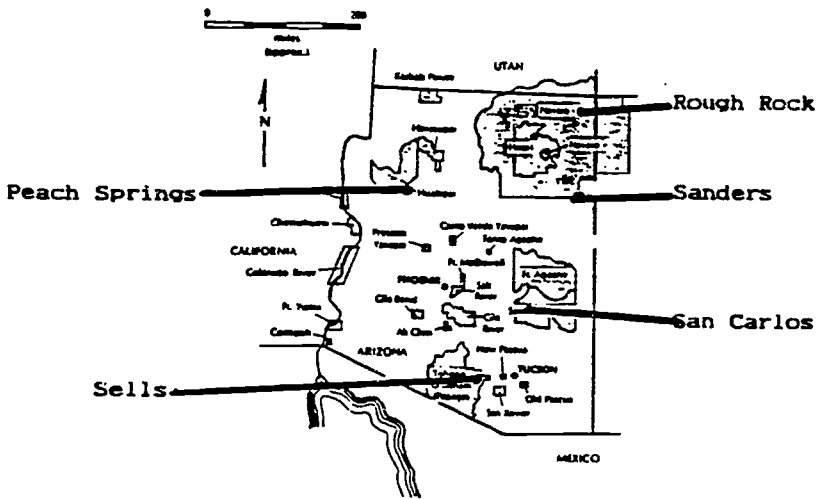
Compiled by T.L. McCarty. Drawn by Shearon Vaughn. Darkened areas indicate Arizona Indian reservations.