

**A Mathematics Educator's Introduction to
Rural Policy Issues**

Edited by

Michael S. Waters
Northern Kentucky University
Department of Mathematics

**Appalachian Collaborative Center for Learning, Assessment, and Instruction in
Mathematics**

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ACCLAIM's mission is the cultivation of *indigenous leadership capacity* for the improvement of school mathematics in rural places. The Center addresses the mission through efforts to (1) understand the rural context as it pertains to learning and teaching mathematics; (2) articulate in scholarly works, including empirical research, the meaning and utility of that learning and teaching among, for, and by rural people; and (3) improve the professional development of mathematics teachers and leaders in and for rural communities.

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A Mathematics Educator’s Introduction to Rural Policy Issues

Table of Contents

Foreword	5
1. Mike Waters and Craig Howley An Introduction to Rural Policy Issues from the Perspective of Mathematics Education	12
2. Paul Theobald Connecting Rural School Curriculum to the Future Civic and Economic Well-Being of Rural Students	30
3. Mary Jean Herzog What is Rural, Revisited	35
4. Jean Haar Making a fit: rural educators’ needs and quality professional development	42
5. Kristine Reed Multicultural Education for Rural Schools: Policies and Practices	52
6. Tom Lyson The Importance Of Schools To Rural Community Viability	59
7. Craig Howley Accountability Implications of School and District Size Research	65
8. Aimee Howley Rural School Bus Rides	78
9. Nancy Jennings Implementing Accountability Reforms: Challenges and Victories in Rural Schools	86

References given in an essay appear at the end of the essay, not at the end of the collection.

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Foreword

Most of the scholarship and commentary on mathematics education deals with issues of curriculum and instruction; this is understandable in a field logically belonging to the domain of curriculum and instruction. Moreover, issues of teaching and learning are compelling to people who love to learn and teach mathematics.

Policy receives shorter shrift in mathematics education, but it is by no means ignored. As we know well based on previous work at the Appalachian Center for Learning, Assessment, and Instruction in Mathematics (hereafter, “the Center,”) however, rural issues are roundly ignored across the board in mathematics education, including in policy matters. The Center, however, cannot ignore them, and a portion of the Center’s research and other scholarship deals directly, and sometimes indirectly, with policy.

The interpretation of “policy” at the Center is given ample breadth, however, so that authors are not required to deal primarily with the trendy policy debates, for instance those surrounding federal legislation (e.g., the “No Child Left Behind” Act) or those involving the character of mathematics education standards. Such debates, one might argue, more often help to obscure than to reveal the most compelling rural policy issues. Center publications have more commonly sponsored consideration, not of the provisions of particular policy instruments, but of the character of institutional arrangements as they enable or frustrate what one might call a “rural common good.”

One of the essays in this collection, by Nancy Jennings, however, *does* deal with the complex implications of standards and the federal Act. And several Center working papers already published also consider such issues.

Until this monograph was completed, however, the Center had published no work specifically dedicated to *summarizing* rural policy issues, but intended for an audience of mathematics educators, math education researchers, and other readers with an interest in the nurture of mathematical knowledge in rural communities. This one does.

The Essays

The opening essay, principally authored by Mike Waters, former Post-doctoral Researcher for the Center and currently assistant professor of mathematics and mathematics education at Northern Kentucky University, introduces this collection by interpreting major rural issues with mathematics education in mind. Equity is an overarching theme, but not in the sense that rural areas are deficient and in need of schooling that looks more suburban. Indeed, the discussion is intended to sketch the need for policy measures that foster rural purposes in the teaching of mathematics. Such purposes center on the sustainability of rural communities, with mathematical knowledge seen by the authors as an especially powerful contributor.

Paul Theobald, Woods-Beale Professor of Urban and Rural Education at Buffalo State College, provides historical context for consideration of a major shift in “the worth of school subjects.” This shift has profound policy implications. Particularly disturbing to Theobald is the reconstruction of knowledge for economic utility over “creating and maintaining social harmony or a sense of community.” In the hierarchy of subjects thus reconstructed, mathematics and science are at the top, so that knowing math well becomes an incentive for young people, in too many cases, to seek success elsewhere than in rural places. The damage done to rural communities is well documented in the

research literatures of rural sociology and rural education. The fault is not mathematics, but in prejudicial views of rural life, a generic sort of schooling that regards not only community, but even democracy itself as of minor importance, according to Theobald.. The essay advises curricular and policy struggle to reclaim democratic purpose and rural community.

The third essay, by Mary Jean Herzog, professor in the Department of Educational Leadership and Foundations at Western Carolina University, considers the varied meanings of “rural.” People working outside the field of rural education often want to know about definitions, but this essay deals more with the variety of meanings and outlooks than with any supposedly “correct” or “most accurate” definition. Definitions of “rural” are easy to find, and so is advice on which ones to use in research and why. Which to use for policy matters, however, is more a matter of political choice, and from the vantage of policy making, all definitions can be read as wanting. Most significantly, Herzog concludes her essay with a claim and a prediction: “Rural communities and their perspectives on living well contribute a great deal to the quality of human life, and will doubtless continue to play this role more sharply as the world tends more and more to placelessness in an increasingly globalized and urbanized world.” On this view, the imperative is for policy making to adapt to an enduring rural world, rather than for rural education to adapt to policy making enchanted with a globalizing world. This view is so novel that it suggests a very different grounding on which to develop rural education policy.

Jean Haar is assistant professor in the Department of Educational Leadership, Minnesota State University at Mankato where she also directs the Center for Engaged

Leadership. Haar's essay, the fourth, considers three areas: (1) the importance of professional development, (2) the kind of professional development that impacts student learning, and (3) recommendations for establishing a purposeful, relevant professional development process within a rural setting.

The fifth essay is authored by Kristine Reed. Reed is assistant professor of education at the University of South Dakota, where she teaches curriculum and instruction. Her essays ask how small rural schools with relatively homogeneous populations prepare students for an increasingly more diverse nation, with an expanding global economy. The discussion develops a rationale for attending to diversity issues in such places and provides one model for establishing multicultural education in rural schools.

Tom Lyson, author of the sixth essay, is the Liberty Hyde Bailey Professor of Development Sociology at Cornell University and is a Research Associate for the Bureau of the Census. His most recent book (2004) is *Civic Agriculture: Reconnecting Farm, Food and Community*, published by Tufts University Press. Lyson's essay reports empirical work that describes what retaining a school means to rural communities, documenting and quantifying that meaning. Lyson notes that, in addition to providing for basic education, rural schools serve as social and cultural centers. They are places for sports, theater, music, and other civic activities. Policy makers, educational administrators, and local citizens must understand that the money that might be saved through consolidation could be forfeited in lost taxes, declining property values and lost businesses. This realm of inquiry provides a unique perspective on what it means for a community to lose a school through consolidation.

Craig Howley wrote the seventh essay. In this essay Howley, co-director of the Center's Research Initiative and adjunct professor of education at Ohio University, summarizes the research on school and district size, particularly as it concerns accountability rankings, and lays out clear principles for making better rural policy based on the findings of the relevant research. Wise decisions about school and district size have not been a hallmark of decision making in many rural regions.

Aimee Howley is a professor at Ohio University, where she serves as program coordinator for educational administration. These programs are among the very few in the nation that sustain an explicitly rural focus. This essay, the eighth, argues that because of decades of massive rural district consolidation and widespread rural school closures, many rural students now face long bus rides every morning and evening. Little is known, however, about the effects of long bus rides on students' achievement, participation in after-school activities, and home life. Howley's essay summarizes the small body of literature that does address the question and offers tentative suggestions for policy and practice based on findings from this research.

Nancy Jennings, author of the ninth and final essay in this collection, is Associate Dean for Academic Affairs and is an associate professor at Bowdoin College in Brunswick, Maine, where she teaches professional education courses. Along with co-authors Steve Swidler and Chris Koliba, Jennings has recently completed a manuscript on place-based education that will appear in the *American Journal of Education* in the fall. Jennings essay concludes this volume with questions about the ways in which two rural schools are coping with state-mandated accountability reforms in South Carolina, reforms that resemble those of *No Child Left Behind*. Policies are intended to resolve some

questions, but they inevitably open others, much as research does. Jennings' essay is a fitting conclusion to the volume, which aims to raise questions among a wider audience of mathematics educators and policy makers interested in both rural schools and the sorts of mathematics instruction that might serve rural places well.

Caveat and Invitation

The Center does not hazard the claim that this collection represents all important rural policy issues, nor even those most salient to mathematics education. That work remains for the future, and considerable impediments suggest it will be a difficult work. The most weighty challenge for such a study might be to decide on the standpoint: from that of already-defined rural issues (e.g., youth outmigration, consolidation and school closure, funding disparities, and so forth) or from that of aspirations for place-conscious rural mathematics education (i.e., from the standpoint of the Center's already articulated commitments).

Once the standpoint were determined, the method to be deployed would likely pose problems. To what extent could such a consideration treat matters empirically? That is, what more might it accomplish than providing a review of a very thin literature, a review that, in the case of the second standpoint, would consist mostly of the Center's already published work?

We'd clearly like to see such an analysis undertaken, because, regardless of the challenges, it could be done. In the meantime, this collection can serve as an introduction for those who might want to consider such a work. We hope that, in the near

future, individual scholars or a team of scholars might undertake a more finely grained assessment of rural issues from the perspective of place-based mathematics education.

Craig Howley
Michael Waters
Athens, Ohio
March 20, 2005

An Introduction to Rural Policy Issues from the Perspective of Mathematics Education

Michael S. Waters & Craig B. Howley
Northern Kentucky University; Ohio University

Introduction and Provocation

In 1995, the National Action Council for Minorities in Engineering in cooperation with The Advertising Council embarked on a campaign to produce advertisements across the country at no cost with the slogan "Math Is Power" and featuring a fist with the letters M-A-T-H written across the fingers. Suburban shopping malls were covered with these posters. One might wonder if a student from an urban community and a student from a rural community had the same thoughts as each encountered this poster.

What power does a student from a rural community find in mathematics? Would mathematical power mean the ability to transform and contribute to your community in ways that preserve the dignity and lifestyle of rural people? Or would it mean escape to somewhere else, a somewhere else in which mathematics is understood to be more highly valued?

The chances are good that the latter and not the former meaning prevails. Why? First, the former meaning is a difficult one to grasp, and even more difficult to put into practice. Second, the college-prep mathematics sequence can be seen as a gateway to a four-year college experience and, in many rural areas, going to college and leaving home for good are synonymous. Third, many educators sell rural kids on a troublesome conspiracy of ideas: (1) you've got to move up in life to enjoy a good life; (2) moving up means enduring as much formal schooling as you can stand; and (3) the best place to realize your ambitions and aspirations is where the action is—in suburban, urban, and

international venues (e.g., Theobald, 1997). The obvious conclusion is that the best thing for kids, especially the best and brightest, is to move as far away as possible, as fast as possible, to experience the real power mathematics has to offer. The common good, a social form of power that might benefit community, , and *thereby oneself*, hardly enters anyone's mind. A communitarian sort of mathematics instruction has not, in fact, been much imagined, except possibly by Robert Moses with the national Algebra Project, building on the Civil Rights Movement's historic sense of African-American community. Other organizations deal more narrowly with mathematics (e.g., the Yup'ik math project at the University of Alaska Fairbanks) or more broadly with rurally-conscious education (e.g., The Rural School and Community Trust)—but none deploys, nor aims at, articulating a specifically rural place-conscious form of mathematics teaching and learning.

There is a fourth way the poster might be read, unfortunately: as a threat. A common misconception in many schools and classrooms is that mathematics is not really accessible to most kids. Few can understand “advanced” math (the usual sequence of college-prep math classes) and the rest might, if they work really hard, understand compound interest and learn enough about keeping a checking account so as not to bounce checks too often. These kids, and they would be in the majority in many rural schools, might read the poster as evidence of the damage math can do and has done to them personally.

Mathematical Power for All

For too long, mathematics has been a secret guarded by those who consider it accessible to only the brightest people. Too often, mathematics has acted as the "gatekeeper" to higher-order thinking and to advanced instruction of all sorts, serving as a filter instead of a pump (MSEB, 1989, p. 7). Indeed, this conception is still the solid norm, not only in middle and high schools but in universities. Calculus, for instance, is often required in undergraduate and graduate business programs. The requirement is strange indeed, given the comparative importance of statistics across the social sciences. This requirement can serve another purpose, however: It can act as a filter to admission and hindrance to retention in these programs. Herriott (2001, p.2) writes:

A...reason for the difference between actual and apparent mathematical requirements...is the political use of the math course as a filter for admission to various majors. For example, at a university that is having too many students applying to its College of Business relative to the number of faculty and relative to the faculty's orientation toward research versus teaching, the College of Business might implement "front-end enrollment controls" by requiring calculus of all business majors.

Given the entrenched misinterpretations of the utility of mathematics, perhaps one of the greatest challenges in mathematics education is to re-educate not only the public but also mathematics professionals about the empowerment that learning mathematics entails. In the United States, people tend to believe that "learning mathematics requires special ability, which most students do not have" (U.S. Department of Education, 1993, ¶1). In fact, among developed and developing nations alike, only in the United States is this myth so prevalent. The perspective has deep roots in our culture and our economy. The classic movie *The Wizard of Oz* shows the scarecrow getting his brain and immediately reciting the Pythagorean Theorem (which, incidentally, he recites incorrectly). More

recently, the popular television cartoon *The Simpsons* features Bart Simpson being moved into an accelerated class and being taken advantage of and humiliated by his fellow students because of their advanced knowledge of mathematics. This particular instance of popular culture, however, satirizes American culture, and thereby hints at uncomfortable truths. In fact, Bart's experience is much like that of the unfortunate MBA candidate who finds his path to management thwarted by his failure to negotiate an avoidable course. The objection here is not to calculus—a wonderful mathematical and historical achievement—but to its misuse within the curriculum as an entry-level screening tool to a field in which it is seldom used.

The prospects for changing minds among the public, moreover, would seem to hinge on changing minds in the profession. The mathematics education reform movement has been working to influence policy, practice, and research for sometime. It is making inroads, but not only is progress necessarily slow, it is commonly contradictory.

Achieving mathematical power for all continues to be a problem. Many school textbook authors, for example, still encourage students to spend inordinate amounts of time factoring, simplifying radical expressions, and performing other skill-based tasks inappropriate and inadequate for learning mathematics in our modern world.

In higher education, achieving equity remains a problem. Current statistics in pure mathematical fields remain troubling: In 2003-04, women constituted just one-third of mathematics PhDs in the U.S., and African Americans less than 3 percent (American Mathematical Society, 2005, p. 243). Apart from gender and racial inequities, an often overlooked demographic is that of the rural poor. The National Council of Teachers of

Mathematics assembled a task force to “share findings and analyses with one other and make recommendations ... regarding what is known and not known about mathematics teaching and learning in schools and districts serving poor communities” (NCTM, 1997, ¶1). One area of particular interest identified by this task force is rural, and this is perhaps the most disturbing news of all.

Ballou and Podgursky (1998) contend that “[R]ural schools offer their students a less rich, less diverse curriculum” (p. 6). In particular, rural schools offer students fewer opportunities to enroll in advanced mathematics courses than do suburban schools, even after controlling for size, despite the fact that “Rural teachers seem to have much more autonomy in the classroom and more influence over school policy” (p. 13). The advantages and disadvantages are likely related to rural school and district size (see the related essay on school size in this collection).

Pro-Rural Mathematics Education Policy

In its research mission, the Appalachian Collaborative Center for Learning, Assessment and Instruction in Mathematics (ACCLAIM) privileges the theory that schooling—including mathematics teaching and learning—can contribute to the long-term health of rural communities. As the essays in this volume note, rural schools too often teach students that they need to abandon their communities (for the sake of career, high income, and personal dignity). Students who reject this lesson are very commonly constructed as “losers.”

The dynamics that construct rural places as deficient impose an inequity—an unfair discrimination—that seems consistent with the dynamics of inequity in

mathematics education generally. The open hostility to rural community embedded in deficiency models, however, seems particularly odious precisely because rural community is small-scale, familiar, and often cohesive (Howley, 1997; Kleinfeld & McDiarmid, 1987). The dynamics of these two sorts of inequity, working jointly, might explain why the connection between community well-being and mathematics education has hardly been considered at all, let alone in considerations of rural schooling. Since the National Council of Teachers of Mathematics headlines equity as its first guiding principle of mathematics education, the field of mathematics education would seem under some obligation to consider this issue at length. A recent interview with NCTM President Cathy Seely underscores this fact. Seely (2004) states, “Equity is the overriding priority in every effort of the Council ... Certainly research is needed to determine the factors that influence achievement in rural settings, as Ed [Edward Silver, University of Michigan, former editor of the *Journal for Research in Mathematics Education*] called for” (¶8).

Even in optimal circumstances, of course, mathematics education reform is an agonizingly slow process. In fact, according to some observers (e.g., Popkewitz, 2004), the national math standards and the vision of mathematics and of mathematics instruction developed by NCTM stand in very tense relationship with the contemporary policy ethos. That ethos is based on the widely shared policy perspective that schools simply must toe the line, or else. Toeing the line means producing Adequate Yearly Progress, fielding “fully qualified” teachers (always a challenge in rural schools), and adopting off-the-shelf reforms of uncertain, but arguable, merit. The contemporary policy ethos defines a one-best-way that might be termed neo-scientific management. (Scientific management, of

course, was the management form developed to improve the efficiency of a hierarchically organized factory. It was introduced to both American factories—as well as Soviet ones—and American schools in the early decades of the 20th century. Accountability schemes exhibit a similar tightness and fixation on “the bottom line,” which is why they might be characterized with the prefix “neo-”.)

Neo-scientific management seems widely discordant with contemporary perspectives on practice, including the national standards in mathematics (but see Popkewitz, 2004, for an interpretation of the possible, if always tense, *consistency*). Those who adopt these perspectives, for instance, argue that the route to mathematical understanding can be varied and diverse, and does not rest solely on mastery of math facts, or for that matter, at the high school level in the usual sequence of algebra 1, geometry, and algebra 2.

While Jennings, in this volume, argues that high-stakes testing is here to stay and that schools must adapt and negotiate the contradictions, these adaptations and negotiations, one might predict, are not likely to be more community-friendly than the negotiations that have brought mathematics instruction to the current state. Indeed, the need to reconcile fundamentally discordant national obligations is likely to shut out all consideration of community.

Working Towards Community in Mathematics Education: The Rural Challenge

One advantage a rural place can have over other places is the strength of its community. In fact, the strength of community may be thought of as the backbone for many rural places and as giving these places its identity.

At least one mathematics organization builds on this insight. The Algebra Project, headed by Robert Moses, insists that “education reform requires that communities become involved and active in support of their children's education” (Moses, 1994, p. 107). This ideology, perhaps unique even among similar organizations, makes clear that change is initiated and reproduced by community first, a position that stands in sharp contrast to contemporary thinking about education policy. In this volume, Haar argues that rural learning communities can be established not only to create cultures that facilitate professional growth, but also to address issues of policy in forceful ways.

The “community” of mathematics education has been plagued by a troubled history. It has been fueled by controversy and motivated by reactionary rhetoric. The space-race of the 1960s spawned “new math.” The 1980s saw the birth of strong national involvement in mathematics education, with the National Council of Teachers of Mathematics recommending that “problem solving be the focus of school mathematics in the 1980s” (NCTM, 1980, p. 1) and culminating with NCTM’s 1989 Curriculum and Evaluation Standards for School Mathematics. The 1990s have been described as “the decade of the Standards” (Lesh, Lovitts, & Kelly, 2000, p. 31), but they were also the decade of the “math wars”—wars that are not yet over. Some participants, like the group *Mathematically Correct*, have claimed that reform efforts are reducing the level of mathematics accomplishment, whereas others, like the group *Mathematically Sane*, contend that reform efforts have not reached many classrooms in the United States, an argument in favor of giving the reforms more time to influence classroom practice. This polarization is not complete, although in some cases, it is nearly so. Mathematicians and

Mathematics Educators can fall into camps like “traditionalists” and “reformists,” with textbooks and curriculum materials following suit.

Rural math teachers can be challenged by the controversy. When reform math materials are introduced, opposition is likely. There can be opposition due to lack of proper teacher preparation, differing views of mathematics teaching and learning, and the threat of disruption to a valued traditional curriculum. Elsewhere, of course, rural educators may easily embrace a reform-minded curriculum, but encounter concerns from the community.

Mathematics and School Consolidation

As the essays in this volume suggest, school consolidation is bad news for rural communities. The “one best size” and “bigger is better” attitudes that have prevailed for the past fifty years or more have served to subvert one of rural communities’ greatest assets: its school systems.

In this volume, Lyson points out that the school is perhaps the most vital institution in a rural community. In fact, a rural community may be identified by the strength of its school system. Also in this volume, C. Howley outlines the relevant research and points out that there is no best size for a school and that “variability is a good thing.”

Further, it has been shown in many cases that smaller schools are better able to educate our nation's youth than are larger ones. Also, it is even arguable that rural schools are generally better able to educate the nation’s poorer youth than are urban or

suburban schools. Despite all evidence and reasonable speculation, rural school consolidation continues, exacting heavy costs from local communities.

One influence that school consolidation has on the teaching and learning of mathematics is clear. The opening provocation of this essay, that mathematics is often viewed as a gateway out of the rural community, is reinforced by school consolidation. Consolidation hypothetically reinforces the tendency for mathematics to be seen as a discipline studied only at school, a form of knowledge totally disconnected—like the school—from the needs and values of a local community. It is seen as a scholarly discipline at best, one reserved for the top students who exhibit the strongest academic interests and, of course, the strongest intentions to desert the local community as soon as possible. What is the message we send to our children when we ask them to spend two hours riding a bus to learn how to factor a second-degree polynomial? The answer is: “Leave!”

Mathematics and Professional Development

Professional development in rural communities is likely to exhibit a different tone than elsewhere. First, access to appropriate professional development is more difficult in rural communities (Howley & Howley, 2004). Physical location is only one barrier to access. For example, many rural school systems lack personnel and funding for substitutes to allow their teachers to take advantage of professional development opportunities.

Haar points out in this volume that high quality professional development can be anchored in the rural community and should occur on a daily basis. Ma’s (1999)

criticism that American teachers are less likely to establish learning communities within their own schools attests to the fact that current efforts of professional development are not localized.

Technology for the rural future. Technology is a key issue in understanding mathematics teaching and learning, in particular, because it concerns equity. NCTM's (2000) *Principles and Standards for School Mathematics* warns, "Access to technology must not become yet another dimension of educational inequity" (p. 14). Use of inexpensive and hand-held technologies and Internet access can open new doors for math students and teachers in rural communities. Mathematics students are afforded opportunities to participate in projects that move them beyond the classroom without actually leaving it. Further, additional innovative instructional materials are freely accessible on the Internet. In rural regions, according to some assessments, potential for technology-based change is good. Harmon and Blanton (1997) contend that advanced technologies are giving rural regions opportunities that they have never had before, despite isolation due to geography or poverty.

Some of those who comment about rural places from the vantage of residence in New York or Seattle interpret the rural world as an anachronism, as is often done inappropriately with American Indians. Indians, they think, vanished and so will rural people and places (except as vacation spots). The Indian population, however, grew substantially in the second half of the twentieth century, and the rural population may also increase in coming years. Expectation of its disappearance is premature. There will be rural communities and people will identify themselves as rural in the future.

The likelihood of a future means that rural communities, and rural mathematics teachers, must consider the role of technology in these futures. A decent rural future will surely engage technological issues, though the engagement need not ape the engagement of the cultural mainstream. The Amish, for instance, are a rural people who do not eschew technology, but negotiate it carefully. Their use of appropriate technology is legendary. Among American farmers, the Amish have a highly praised tradition of *innovation*. Their practices are at odds with the popular misconception of the Amish as quaint, ineffectual, and unchanging.

Mathematics Education and Rural Policy

Introducing rural policy from the perspective of mathematics education is tricky, with the trick being to find the common ground, the intersection of the two disciplines: either mathematics education issues that play out especially strongly in rural places or rural education issues that address or affect mathematics education. One justification for looking more closely at rural policy is to explore the embedded, but unrecognized, relationships between mathematics and rural education. Both fields appreciate the role of power relationships expressed via social and cultural capital. For instance, most observers will be hard-pressed to find a connection between long bus rides and mathematics education. Long bus rides, however, result from consolidation, and not merely from isolation. The consolidated school, especially the consolidated “comprehensive” high school, enacts a certain kind of schooling, one in which community itself has traditionally been viewed as nearly irrelevant to the academic purposes of schooling. That form of schooling evolved, in large measure, as an

institutional response to the Cold War (of which the previously mentioned space race was also a part). The goal was production of experts to enhance America's prodigious economic and technical power, and the small rural high school was seen as a serious impediment. Comprehensive high schools were to create that expertise, in particular, through offering math and science instruction tailored to the most academically talented quarter of the population (Conant, 1959). National purposes superseded—actually *trumped*—local purposes, at significant cost to community and, quite arguably, to individuals from less advantaged backgrounds (“academic talent” correlates strongly to moderately with social class).

Another justification for examining the policy intersection is that both rural places and mathematics (at least in some of its aspects) are consistently undervalued and denigrated in our society. It may seem strange to insist that mathematics is undervalued, but the parallels become clearer if one considers for what they are valued. So far as they *are* valued, rural areas are valued far more for their exports of commodity goods than for their contributions to American thinking (much American literature is based on rural themes) or to the construction of the common good (actual rural communities as well as rural theories of the common good are nearly as prevalent as American fiction with rural themes). And, so far as it is valued, mathematics is valued far more for its contributions to profitability and competitive business edge than for its contributions to logic and intellect. Rural people are often called “backwoods” and “redneck”, while those who study mathematics are “nerds” and “eggheads.” For all these reasons, *rural mathematics education* seems an unaccustomed mixture of values, perspective, and purposes, but the

separate contributions of each phenomenon (rural life and mathematics) to thought and understanding remain unappreciated in the popular imagination.

The Challenges of Nurturing Pro-Rural Mathematics Policy and Practice

Many teachers are being held more directly accountable for their students' achievement by principals, superintendents, state officials, and federal officials. In rural schools, this scrutiny can be especially contradictory. State standards and the related high-stakes testing regimes can compete not only with the less authoritarian view of national standards (i.e., the NCTM standards), but also with the devotion of rural communities to local purposes, leaving rural mathematics teachers confronting mixed messages. It must also be pointed out that rural teachers are most often locally born and reared. These tensions and contradictions are, in fact, not only native to their professional roles, but to their identities—and they have probable connections to how they relate to their families and to their communities.

Inadequate support for and inaccessibility to teacher preparation programs and inadequate support for technology can leave rural teachers with misinterpretations and false conceptions of state and national expectations. The national “No Child Left Behind” (NCLB) Act, for instance, can be viewed, not as policy intended for the betterment of the nation's schools, but as another obstacle to overcoming the challenges of developing and supplying a form of schooling appropriate to rural places.

In general, however, the professional consensus in mathematics education is embodied in the standards of the National Council of Teachers of Mathematics, which interprets mathematical purpose and utility as accessible to all, and mathematics itself as

meaningful (a dramatic difference from the popular view of mathematics as baffling or even incomprehensible).

How does this perspective play out in rural places? Approaching this question demands an appreciation of rural places, and of ruralness in the abstract, to the emergent national culture, political economy, and historical trajectory. This short essay cannot do justice to such a task, but it should be acknowledged that rural places do not fare well. National culture is made by expensive media more apt to mock than honor rural places (the recently aborted “reality TV” show that aimed to manipulate stereotypes about Appalachians is a case in point). The national political economy has ruined agricultural livelihoods across rural America, sweeping rural towns off the map (and closing or consolidating rural schools and districts). The historical trajectory is toward “globalization,” a concept that enjoys the boosterism of the power elite, and exhibits little concern for localities (except as security ghettos for the poor and as protected retreats for the rich). Though generalities, these assertions are grounded in ample fact (see, for example, Bauman, 1998; Orr, 1994; Strange, 1988; Theobald, 1997).

In any case, this is the rural reality in which the common prejudices about and within mathematics are structured. How might they be predicted to operate? If one were placing bets, one would bet that such prejudices as are practiced in mathematics education would reinforce the status quo in rural areas. Indeed, one would predict that they would operate as previously hypothesized in the minds of rural youngsters encountering the fist tattooed with M-A-T-H. The power construed for mathematics is not likely to be community-friendly in American culture, and nowhere less so than in

rural America, and, within rural America nowhere less so than in impoverished communities. To some minds, all this is reason for substantial change.

Finally, and hopefully, the relatively unchanging realm of mathematics content is meeting rural communities in a new way. With decent and ever-changing pedagogy, community involvement, and appropriate use of technology, those communities might well experience the true power mathematics can offer—power to promote civic engagement, preserve rural places, and create opportunities for rural students to thrive *within* their culture, rather than altogether without it. Further, this meeting need not be seen as invasive, but welcoming. Decent and ever-changing pedagogy must take into account not only mathematics that relates to the culture but that is, in fact, *driven* by the culture and is reinforced by policy and practices that are place-specific.

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Connecting Rural School Curriculum to the Future Civic and Economic Well-Being of Rural Students

Paul Theobald
Woods-Beale Professor of Urban and Rural Education
Buffalo State College

Just a few decades into the twentieth century American policymakers felt confident that they had created an optimal blueprint for America's schools. They even referred to it as the "one best system." This system looked askance at the earlier notion of common schools and preferred, rather, differentiated schools, or school tracks designed to sort children into their "evident and probable occupational destinies."

There were two underlying assumptions that helped bolster the popularity of the one best system while simultaneously undermining the vitality of rural places. The first assumption was that school was first and foremost about the provision of economic utility, and the second was that economic activity would gradually center almost exclusively in urban locales. As the century progressed, rural students suffered in two ways. First, they were denied a civic-oriented education that might have better prepared them to defend the integrity of rural places in the face of anti-rural policies, and, second, they were taught to believe that "success" lies somewhere in urban America, not in their rural home. This essay will discuss curricular trajectories that can adjust for the shortcomings in the rationale undergirding America's "one best system."

Today it is common practice to periodically ask employers what they are looking for in employees so that we can refine or re-tool what goes on in school. It is unclear exactly when the idea that schools ought to tailor their curriculum to specifications established in the workplace became common practice. It most certainly was not a part of the project when free public schools were established in the 1830s.

By 1918, however, all of the components of the modern school, including its emphasis on preparation for the work force, were in place. The century-long trend in rural depopulation had already begun. The trend toward a declining percentage of farmers in the general population had begun as well. As schools focused on meeting occupational prerequisites, there was little point in attending much to preparation for the farming life. While there were vocational agriculture teachers after 1918, their numbers have declined steadily throughout the past fifty years. And today those districts that can continue to support a vocational agriculture program embrace a curriculum intended for careers in agri-business, not traditional farming.

As the twentieth century progressed, schools were seen as the vehicle for pointing youth toward jobs in the nation's cities and suburbs. In the process, farms got bigger and main streets got smaller. Rural hospitals closed, and so did many schools. Throughout the century, rural America slipped on most quality-of-life criteria. Rural poverty rates have steadily climbed, so that they now match or have eclipsed poverty rates of the nation's inner cities. While this history unfolded throughout the twentieth century, rural schools (1) failed to attend to the civic development of rural youth and (2) failed to challenge the cultural assumptions about success being located in urban and suburban locales. In other words, rural youth gradually came to believe that the disintegration of rural communities was a natural cost of progress, regrettable perhaps, but unavoidable.

For those rural dwellers who would like to see rural schools take corrective action in an attempt to address these two major failings, the task is to direct a school's curricular attention to the provision of political wherewithal. This was the largest part of the rationale for free schools when they were established in the nineteenth century. A

democracy requires a citizenry that knows how to make democracy work. Somewhere along the way, we dropped the idea that students might use literature, art, science, music, history or mathematics to explore substantive definitions for such concepts as beauty, truth, and justice; lost, too, was the idea that school is an excellent place to practice the application of these concepts to matters of public policy. Eventually school subjects were arranged in a kind of hierarchy, with math and science on top, art and music at the bottom. The worth of school subjects was measured by what they promised in terms of economic utility rather than what they could contribute to creating and maintaining social harmony or a sense of community.

This trend must be confronted head-on. All of the traditional school subjects can play a role in providing political wherewithal of the sort required for democratic policy surveillance. We must resist the trend to focus near exclusively on math and reading as the logical extension of the schooling for the economic utility mindset. We must insist on a school curriculum that will enable students to wield what John Goodlad refers to as the “democratic arts.” Children need to grow up knowing what constitutes a persuasive argument, how to interrogate an evidence base, and how to interact civilly and with tact; they need to understand the concepts of good neighborhood, compromise, give and take, and how to follow and lead in turn. A rural citizenry with these assets does not become the victim of an anonymous force called “progress.”

Besides a civic education through traditional school subjects, rural schools must challenge shallow cultural stereotypes about the worth of rural life. One of the most damaging cultural myths in our society is the idea that bigger is better. Bigger farms are better than small ones. Bigger corporations, bigger hospitals, bigger cities, and bigger

schools are all better than their small counterparts. There is no research to bear this out in any substantive way—though it has been tried over and over again—and yet we cling to this shallow notion as if it came with all the believability science could provide. We transmit this notion in countless informal ways, including television shows that make a joke of small-farm or small-town living, like the *Beverly Hillbillies* or *Green Acres*. These cultural messages do real damage. Rural youth generally enter college feeling inferior to their urban and suburban peers. They are less certain that they can succeed at the college level. Yet there is much a rural school can do to challenge shallow cultural assumptions and in the process empower students to stand up for rural places and people.

Providing a first-rate civic education that includes intellectual challenges to stereotypes about rural life is only half the battle. Life is not exclusively political, any more than it is exclusively economic. Schools ought to be preparation for both dimensions of the human condition. But rural schools need to recognize that doing all they can in the name of providing for economic wherewithal should include entrepreneurial lessons that demonstrate how creative individuals can create economic opportunities where few exist, rather than focusing on providing skills currently demanded by an urban or suburban labor market.

In an exhaustive study of diminishing “social capital” in America, Robert Putnam argues that Americans are becoming less and less connected to one another. Further, he claims that this loss of connection results in a diminished sense of community, a condition that handicaps democratic processes leaving concentrated power to make self-interested decisions that are not in the best interests of citizens. It does not take much to position rural schools to be “connecting institutions” in rural places. Providing civic *and*

economic education, combating stereotypes, raising a sense of self-efficacy in rural students—all of this can be done within the curricular parameters already established in the nation's schools. It requires only the will to do it.

What Is Rural, Revisited

Mary Jean Herzog
Western Carolina University

Rural is ...*out in the country ...farming ...community ...remote ...isolated.*

Rural is *not the city*... Rural is a simple word and, it would seem, easy to define. The reality is more complex. Howley (2002) recently tackled the question and noted that one research article listed 250 definitions of the word “rural.” He concluded that the complex definitions of rural are not necessarily any more useful than the casual adage “...if you think you’re rural, you are...” A large part of the U.S. is rural, and various sources claim that from 30 to 45% of American children go to rural schools. The importance of meaning takes on more cultural, educational and economic significance when policy makers and legislators pass laws, set goals and disseminate funds, typically leaving rural schools and communities behind. Rural issues remain marginalized in national education discussions.

The 2002 federal education law, the “No Child Left Behind” (NCLB) Act, is an example of major legislation lacking adequate consideration of its impact on rural schools. Rural schools often have few students in minority subgroups, and the failing scores for one or two children may cause an entire school to fail (Jimerson, 2003). Rural teachers frequently have to teach more than one subject, a practice that may put them in violation of the “highly qualified teachers” clause in the law. In addition, rural teachers get paid significantly less than non-rural teachers. On a national policy level, rural issues have been overshadowed by urban and suburban school problems, and concern about the

impact of NCLB on rural and small schools is growing (AASA, 2003; Coladarci, 2003; Tompkins, 2003).

On a tour of Alaska's schools, U.S. Secretary of Education Rod Paige expressed surprise about the distances students would have to travel to go to school in another district. Joling (2003), an AP reporter, asked a teacher about the implications of sanctions against failing schools that enable parents to transfer their children to other schools. The teacher replied, "A student would have to spend \$270 to fly to Nome or travel four hours by snowmachine to get to the next village." Schools in the Alaskan bush also have a difficult time with staffing. Teacher turnover is high and housing inadequate; teachers sometimes live or camp out in the schools.

Too often, rural issues are left out of the equation. In rural education circles, the problem of definition surfaces again and again. Technical, official definitions and descriptions given by government agencies vary. The Department of Agriculture defines 11 non-metropolitan categories. The United States's official term for rural areas is *non-metropolitan*. Rural areas vary on many demographic dimensions including population size, diversity, resources, needs and proximity to urban centers. Some rural areas, paradoxically, advertise small "rural cities" in their public relations. It may be that the only thing that can be said unequivocally of rural areas is that they are *non-metropolitan, non-urban* places.

Rural is usually defined in relation to an urban archetype, and it is commonly considered deficient in comparison. The Census Bureau definition of rural areas is a case in point. One definition says that rural areas are communities with *fewer than 2,500* inhabitants or *fewer than 1,000* inhabitants per square mile. The section on "Census 2000

Urban and Rural Classification” has 673 words; “urban” is used 39 times while “rural” is used 16 times, and rural is referred to as “outside” urbanized areas (UA) and urban clusters (UC). It says (United States Bureau of the Census, 2000), “The Census Bureau's classification of ‘rural’ consists of all territory, population, and housing units located outside of UAs and UCs.”

The model used by government agencies to designate and define rural areas is based on a pervasive urban perspective that contributes to rural marginalization. Rural areas are commonly described in the negative, for example as *places without malls and towns without traffic lights and skyscrapers*. Defining urban centers relative to the rural countryside would seem ludicrous. New York City, Chicago and Denver are not normally described as *non-rural areas with more than 2,500 people* or as *areas without barns or dirt roads*. Haas (1991) argues that our culture devalues ruralness and that prejudices against rural people and places are pervasive. Howley (2002) calls this stance “inherent cultural inadequacy.”

Images of rural people and places are both romanticized and vilified, and rural people often internalize the related prejudices. While many rural people exhibit love and pride for their rural homes and communities, they also often express a feeling of inferiority. I have been collecting data on attitudes toward rural places for several years and consistently receive strong positive responses to the question, “What do you think of when you hear the word ‘rural’?” They describe rural as “safe, caring, nurturing, country, community, close.” At the same time, they talk about being ridiculed for being “from the country.” A sense of inferiority often comes from being mocked for their dialect and accents, from having to take speech classes in college so they can learn to “speak right”

to being told they should “learn to speak English.” They tend to handle the negative attitudes philosophically and with good humor. For example, a school administrator in a small, poor, rural county said that outsiders building houses on the side of the mountains call the natives country bumpkins. He said they were really the fools for paying hundreds of thousands of dollars for what he and his kin thought was worthless property. (High-end development corporations have bought thousands of acres and are selling lots for a quarter-million to a half-million dollars each. See examples at the following URLs: <http://www.bearlakereserve.com/> & <http://balsammountainpreserve.com/> .)

A nationwide study on the *Perceptions of Rural America* by the Kellogg Foundation (2001) also found surprisingly positive attitudes. The respondents, who were from a cross-section of urban, suburban and rural locations, had fond feelings for the rural idyllic myth but fears about the future of the rural countryside. Many of their beliefs were based on past rather than present conditions. A common image was the small, rural town with its single-family homes and homogeneous population. A study of housing policies in Iowa found image is also one of the “mythical ideal” past in small, Midwestern towns (Ziebarth, 2000). Economic changes, including in-migration, have created a strain on this idealized image.

Another common rural image is the family farm, but in reality, less than 10% of the rural population lives on farms, and agriculture makes up less than 12% of employment in rural areas. The family farm has been supplanted by corporate farms and developers, and farmland has been largely destroyed by agribusiness.

Urban and suburban sprawl are increasingly common concerns of rural areas. The country is flooded with sprawling fast food outlets and chain stores. Farmland

throughout the rural countryside is being redeveloped for housing developments, and it is not uncommon to see large, expensive subdivisions replacing cornfields and apple orchards. A recent problem has emerged as agricultural toxins are found in the land being used for new houses. For instance, a 500-acre apple orchard redeveloped for exclusive homes in Haywood County, North Carolina, was recently placed on the EPA Superfund Cleanup list because of arsenic-laced pesticides.

Contradiction and struggle are dominant features of rural America in modern times. In the Kellogg study, attitudes toward rural America based on anachronistic beliefs of rural conditions. At the same time, negative stereotypes proliferate, as illustrated by the CBS television proposal for a “reality” show called *The New Beverly Hillbillies*, in which they planned to find an “ignorant, uncivilized” family from the southern Appalachian mountains, take them to Beverly Hills and introduce them to “civilization.”

Definitions of rural vary according to agency, and, as Howley (2002) said, they are not very useful. His question, *is my rural the same rural as your rural*, gets at the more personal, subtle and relative differences in definition. Rural areas in Newfoundland, for instance, are quite different from the Appalachian mountains of North Carolina or the Rocky Mountains of Colorado. Yet, to a resident of Durham or Denver, the mountain areas in their states are likely to be considered extremely rural and remote. If inaccessibility is a defining feature of rural places, it presents another paradox: the majority of American residents would likely agree that driving conditions in major urban areas, like New York City, Seattle or Los Angeles, make them highly inaccessible. In

fact, the language itself is problematic: the words *isolated, inaccessible and remote* have inherently negative rural connotations.

What, then, is rural? The answers vary from person to person and agency to agency. Rural is a technical concept. It is an idea and an ideal. It is rich and poor, beautiful and ugly, diverse and homogeneous. It is loved and despised, ridiculed and revered. It is a place, a people and a way of life. It is wrapped up in nature, individual and community.

Rural areas are disappearing. Urban sprawl is encroaching and farms are being transformed into housing developments, golf courses, super highways and super WalMarts. Rural residents in some communities are taking stock of their assets and liabilities and asserting ownership of the direction in which their communities are moving. In some communities, land use planning has resulted in new language to designate and sustain rural areas—rural reserve, rural gateway community, rural neighborhood center, rural area plan, rural village—language that is inherently positive rather than apologetic, stereotypical and negative. A movement may be on the horizon as serious efforts to enhance and sustain rural communities become more common. This is a healthy direction for rural communities to take. Success in sustaining the positive features and resolving the problems of rural places will take true community effort, a process in keeping with the nature of rural life. The realities of life in rural areas will continue to be complex, with both positives and negatives, but as efforts to sustain the best of rural communities grow, perhaps rural will increasingly be seen as valuable in its own right, not merely as a lesser comparison of the city. Rural communities and their perspectives on living well contribute a great deal to the quality of human life, and will

doubtless continue to play this role more sharply as the world tends more and more to placelessness in an increasingly globalized and urbanized world.

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Making a Fit: Rural Educators' Needs and Quality Professional Development

Jean Haar
Minnesota State University, Mankato

“Nearly one in three of America’s school-age children attend public schools in rural areas or small towns of fewer than 25,000, and more than one in six go to school in the very smallest communities, those with populations under 2,500” (The Rural School and Community Trust, 2003). Educators in these rural settings have the responsibility of providing children with a quality education that encompasses a wide expanse. These children need to understand and appreciate the qualities and opportunities of their rural communities as well as those of the larger, global society. Having educators who are qualified, prepared and committed to meeting the needs of all students becomes a necessity. Darling-Hammond noted,

In its recent report, *What Matters Most: Teaching for America’s Future*, the National Commission on Teaching and America’s Future argue that every child should have as an educational birthright the guarantee of a caring, competent, and qualified teacher, and that every teacher and principal should have the right to high-quality preparation and professional development. (1997, p. 6)

Add to the challenging task of meeting each student’s needs the number of changes occurring in education (such as standards, technology, school safety), as well as new federal and state mandates (such as the “No Child Left Behind” Act of 2002), and the need for providing a high-quality, ongoing professional development program for rural educators becomes understandable.

The purpose of this paper is to (1) share the research on the relevance of learning communities; (2) describe high-quality, ongoing professional development; and (3) share

recommendations for establishing and maintaining high-quality, ongoing professional development.

Learning Communities

The demands and challenges of education need not take a toll on committed educators. Schools that reorganize themselves as genuine learning communities will find that they are able to embrace the challenges with energy and a sense of renewal (Barth, 1990; Neuman & Simmons, 2000). Senge (1990) described learning communities as places “where people continually expand their capacities to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together” (p. 5).

Learning communities provide ways for everyone, regardless of role, to form teams of adults who work collaboratively in structures that enable them to share responsibility for student learning (Darling-Hammond, 1997). In addition, strategies like study groups, peer coaching, action research teams, collective development of learning standards, and collective assessment of student work ensure that learning is a focused and ongoing process. In this way, the teacher’s day-to-day work becomes a form of high quality professional development.

The research on learning communities describes what is possible in a school focused on learning. Rural schools by structure and philosophy match the expectations and description of a learning community. Establishing a learning community in a rural

school can result in a more coherent, focused atmosphere—an atmosphere that encourages committed educators to continue to grow as professionals.

Establishing a learning community can also provide rural schools with a framework within which the “No Child Left Behind” (NCLB) Act can be addressed. The act contains four principles: stronger accountability for results, increased flexibility and local control, expanded options for parents, and an emphasis on teaching methods that have proven to work (U.S. Department of Education, *NCLB*). The atmosphere of learning communities would allow educators the time and the focus to address the specific requirements and expectations of NCLB. The learning community framework would also allow educators to meet those requirements and expectations in a manner that also meets the unique needs of their students and schools.

Professional Development

Why is it so crucial that teachers and administrators become the leading learners in their schools? The first reason is the extraordinary power of modeling. “Do as I do, as well as I say” is a powerful message not lost on youngsters who want to emulate the most important adult role models in their lives. Second, the world is changing. The problem with schools isn’t that they are no longer what they once were; the problem is that they are precisely what they once were. The world around the schoolhouse is changing dramatically. Teaching and leading are not innate for most of us. We teach and lead better when we constantly learn how to teach and lead.... Third, with learning comes replenishment of body, mind, and spirit—and of schools. These days, schools and the educators who reside in them are depleted. Replenishment comes from either leaving the exhausting work of the schoolhouse or from remaining there and coming alive as a learner. In order not to lose educators from the schools as dropouts, they must be restored as learners. (Barth, 2001, p. 28)

The type of professional development provided is relevant to the success of establishing a solid learning community. According to Darling-Hammond (1997):

There is no one “right approach” to professional development that will produce excellence in teaching although useful approaches will match the culture and needs of specific school environments. However, in any successful professional development process, teachers will not simply receive knowledge but also generate new knowledge about students, learning, and teaching (p. 10).

Darling-Hammond also emphasized:

While good professional development should be anchored in the daily routine, another powerful form of learning for teachers and principals comes from membership in professional communities that extend beyond their classrooms and schools. Whether these communities are organized around subject matter, pedagogical issues, or particular reforms, they promote dialogue and support for risk-taking that is a part of any process of significant change.

These networks give teachers and principals opportunities to explore new ideas that originate beyond school community, and to discuss teaching and learning taking place within the profession at large. Such communities may include school/university collaborations, change efforts, teacher-to-teacher and school-to-school networks, partnerships with neighborhood-based organizations, and involvement in district, regional, or professional associations. (1997, p. 10).

In *Standards for Staff Development*, the following was shared:

At one time staff development was synonymous with “sit and get” sessions in which relatively passive participants were “made aware” of the latest ideas regarding teaching and learning from so-called “experts.” Today...staff development not only includes high-quality ongoing training programs with intensive follow up and support, but also other growth-promoting processes such as study groups, action research, and peer coaching, to name a few.

In addition, staff development is no longer viewed as something that is only necessary for teachers. We now recognize that everyone who affects student learning, from board of education, central office administrators, principals and teachers, to the classified/support staff and parents, must continually improve their knowledge and skills in order to ensure student learning. Likewise, we now understand that staff development is not the

exclusive responsibility of someone given the title of “staff developer;” rather it is the responsibility of superintendents, central office administrators, principals, and teachers, among others. (1995, p. 1)

Professional development should center on expanding the teachers’ content knowledge as well as supplying opportunities for dynamic learning. Gusky (2002), Sparks and Hirsch (1997), and Killion (April, 1999) advocate for planning professional development with the end product in mind, working backwards as a results-driven process. Killion summarized:

Staff development in schools today should be less what “I want to learn” and more “what I need to learn” to improve the learning of all students. Such staff development planning begins with the end in mind. It focuses on what students are expected to know and be able to do and includes a thorough analysis of where students are in relationship to where we want them to be. (1999, p. 3)

Richardson commented:

To make a difference in student learning, the researchers concluded, professional development must: 1) Help teachers understand the content they are teaching as well as the content of the standards and assessments that are being used; 2) Be linked to the work that students are expected to do; and 3) Be continuous. “When educational improvement is focused on teaching and learning academic content and when curriculum for improving teaching overlaps with curriculum and assessment for students, teaching practice and student performance are likely to improve. (1998, p. 1)

Planning Professional Development

With the type of professional development clarified, those involved in the planning and implementation of professional development should also take the time to address the following with teachers (DuFour, 1991):

- Purpose—Why do we exist?
- Vision—What do we hope to become?

- Values—How will we become the school we want to become?
- Goals—What steps? When?

By clarifying the purpose, vision, values, and goals of the school, a framework within which conversation, planning, and implementation about professional development can be established.

Killion (March, 1999) offered the following suggestions for planning and implementing a professional development program that will affect student learning:

To plan staff development backwards, teams first become familiar with the standards or expectations for student learning. This means studying the curriculum, reviewing district, state, and/or national standards, and analyzing the scope and sequence.

With this baseline knowledge, staff development planners next must carefully and thoroughly disaggregate student performance data. This analysis requires examining multiple forms of student performance data rather than a single test. For example, schools should collect and analyze norm-referenced tests, state assessment tests, district and classroom performance assessments, student work, and other evidence.

Data analysts should answer several questions: What patterns emerge from the various data? What student performance deficits emerge across multiple sources? In what areas of the discipline are students strong and weak? For which students are these deficits and strengths most apparent? What is our best educated guess about what causes these results?

Such specific student information rarely emerges from an open-ended needs assessment. . . .without carefully examining student performance data and comparing student needs to curriculum standards, schools will be in the dark about how to design staff development that will improve student performance. As a result, the impact of any staff development efforts will be insignificant. (p. 3)

Recommendations for Professional Development

The purpose of NCLB’s Improving Teacher Quality State Grants program is to “increase student achievement by elevating teacher and principal quality through recruitment, hiring, and retention strategies. The program uses scientifically based professional development interventions and holds districts and schools accountable for improvements in student academic performance” (U.S. Department of Education, *NCLB: A Desktop Reference*). With this in mind as well as the previously mentioned research on professional development, rural school district policies should be adjusted to reflect the expectation and provision for professional development. The policies may be formulated from the following recommendations—recommendations based on providing quality professional development for rural educators:

- Create the time and the opportunity to develop and maintain a learning community.
- Begin with the end in mind and focus on student learning.
- Use school information and data to design a professional development program.
- Maintain ongoing professional development with intensive follow up and support.
- Use “growth-promoting” processes, which require students to work collaboratively and therefore take responsibility both for their own and each other’s learning. Such methods include study groups and peer coaching.
- Provide the necessary leadership to establish and maintain a quality professional development program that supports a learning community.
- Respect and use staff members’ knowledge and skill.
- Provide staff with pertinent research and resources.
- Encourage membership in professional organizations and participation in local, state, and national conferences and conventions.

- Expect staff to grow professionally and to be accountable for student learning.

Conclusion

Scribner (2003) asserted that policy makers must ensure that the professional development content and pedagogy are appropriate: “Appropriate professional development assists teachers with developing their own ideas and connections among materials that students are to learn, understanding the various ways students experience a given content area, and learning how to foster student engagement with the material” (p. 5). Sparks, director of the National Staff Development Council, emphasized the importance of providing quality professional development:

On one hand, my own view of a powerful stretching vision for schools: (1) All students and staff members learn and perform at high levels; (2) Every student has a competent, caring teacher; (3) Every teacher has the preparation, professional development, and other ongoing support to become competent; (4) A new form of results-driven, standards-based staff development is at the core of the reform movement. On the other hand, my view of the current situation suggests the following circumstances: (1) Many students don’t learn at high levels; (2) Whether students have competent, caring teachers is hit or miss; some kids have the good fortune to have such teachers, others do not; (3) Most staff development/school improvement activities don’t focus on teachers’ content knowledge, pedagogy, or other classroom-related knowledge and skills. Too often the focus is on “safe” topics such as student self esteem or school climate; (4) The small amount of staff development that focuses on teachers’ instructional knowledge and skills often isn’t sufficiently rigorous or sustained to produce

lasting on-the-job changes. While there are exceptions to the above, they're far too infrequent to ensure high levels of learning for all students.

As educators, we must meet the challenges of educating today's students. Professional development—when of high quality and ongoing—can provide educators with the skills and knowledge needed to meet the challenges. High-quality, ongoing professional development can guide, encourage, and reinvigorate rural educators—educators who often find themselves in environments that demand much of them physically and emotionally. Professional development can ease those demands while also strengthening student learning.

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Multicultural Education for Rural Schools: Policies and Practices

Kristine M. Reed, Ph.D.
University of South Dakota
Vermillion, SD

The question that this essay seeks to address is how small rural schools effectively integrate multicultural lessons in places where few minority families live and work. Before sharing examples of lessons for rural areas, I will provide both a description of multiculturalism as an educational movement that promotes democratic ideals and a rationale for attending to diversity issues in predominantly white, monocultural communities (see Tiedt & Tiedt, 1995, for the full range of resources).

The nation has always been multicultural. Generations upon generations have settled the hills and prairies, spreading diversity from shore to shore, while those charged with leading the nation struggled to find ways to manage diversity, to unite the peoples in the face of so many differences. Unity, for early settlers of the Midwest, was face-to-face meetings with neighbors and local business owners who recognized and shared common interests and worked long and hard as needed to achieve what most of us today would consider, at best, a meager existence. These early settlers were not without their differences. Language, religion, customs, and values, just to name a few, diversified the prairie populace. Though differences existed, rural Midwesterners came together to form cooperatives and unions that strengthened their role in the nation's political and economic scene. Unified through common goals, the differences of the rural Midwesterners became the tools for achieving their own interests as well as ensuring their neighbors well being.

On the other hand, the past was not without those who projected a different view of diversity. As the number of immigrants to the United States continued to climb, leaders of the nation looked for ways to manage the differences. This management of diversity included the adoption of policies and practices that worked to eliminate differences and move everyone closer and closer to the conception of America as the “melting pot”. Known as the “solution to the problem of immigrants,” the melting pot theory guided the creation of many policies and practices that were intended to acculturate diverse populations (Garcia, 2002). One example of this took place in a country school no more than a hundred feet from where I stood years later waiting for the school bus to take me to a school nine miles away. The English language was the only accepted language in the country schoolhouse, and any use of “home language” was met with a sharp ruler across the back of the hand. Garcia (2002) points out that although this was an effort to avert educational failure, “efforts to assimilate immigrant populations were coupled with systematic attempts to maintain disparate social and economic conditions between them and the majority population” (p 101). Today, programs to eliminate the undesirable linguistic and cultural differences continue and, in keeping with the past, structures that bar certain groups from participation in the dominant community also remain firmly intact.

Multiculturalism represents the new look of “diversity management” that values the knowledge and skills that a diverse population brings to the table. Rosado (1996) calls multiculturalism the “art of managing diversity in that no one is left out, no one is excluded.” This clearly represents an approach that extends far beyond merely overcoming differences or even respecting them, to the point of actually engaging

differences and empowering groups in all that we do in our classrooms, our schools, and our communities. It means going beyond responding to the cries for equality to actively involving marginalized groups in our governing practices and our policy-making efforts.

Some may argue that attending to multiculturalism in rural places that are monocultural, and remain that way, is way down the list of curricular concerns when educators are faced with the realities of a highly complex, information-exploding, standards-driven, global economy. I propose that it is in light of these complexities that educators need to recognize the value of diversity and the necessity of community. Taking lessons from our past, we as teachers and teacher educators in rural areas must attend to empowering our youth – to promote critical and collective decision-making that leads to action for the betterment of all. In other words, teaching the ideals of democracy. This is multicultural education and what multicultural education can foster in our schools. Multicultural education, in essence, is all about promoting the ideals of democracy. With the pinnacle of those ideals being no less than inclusion in the process and products of a unified body represented by a wide range of talents and ideas, knowledge and skills coming together for the good of the whole.

Teaching our young about living and participating in a pluralistic, democratic society is no small charge and no less demanding in rural schools. Rural Americans, as described by a radio talk show host, are the most recent group to be fair game for poking fun. The derogatory remarks and negative symbolism are no longer subtle messages that creep into the subconscious. They are blatant and cruel, and, one might argue, they are paving the way for corporate America to set up stakes in rural places. Rural America has for some time now taken some very hard blows from corporate America and, in the

current situation, is struggling to avoid becoming another piece of the American pie soon to be gobbled up by bigger and bigger corporations. This is extremely evident as rural areas continue to experience increased poverty rates and declining populations (Huang, 1999). It might be argued that this ordeal is furthered complicated by a society that has found it increasingly more and more popular to openly ridicule and dehumanize people in rural America. What does this mean to students attending rural schools? Are students in rural areas turning a deaf ear to these messages? What seems more likely is that rural students internalize a marginalized status, which seems reason enough for rural schools to embrace educational practices that prepare rural students to be knowledgeable citizens actively working to eliminate social injustice. Not simply individuals who recognize bias and prejudice, but who understand the distribution of social and economic justice.

Much of the current research and theory supporting the efforts of integrating multicultural education in rural areas includes descriptions of rural communities that have recently experienced a rapid increase in diverse populations (Salzman & D'Andrea, 2001; Roberts & Rodriguez, 1999). These communities found creative ways to bring cultural differences to the forefront in their schools by providing opportunities to explore other cultures through face-to-face interaction, parental involvement, language, theater, and curricular resources. These additional experiences, along with on-going staff development, provided the vehicles for promoting respect for differences and acknowledgement of the increased cultural wealth in the communities.

Multicultural education in rural areas that remain monocultural offers different challenges for educators. For one, rural communities experience cultural isolation as a result of little or no ethnic diversity. Students from rural areas are limited in their first-

hand experiences with diversity, resulting in a limited understanding of culture and its impact. This limited cultural understanding places rural students at a definite disadvantage in being prepared to participate in an increasingly diverse nation (Oliver & Howley, 1992). Cultural understanding can be greatly augmented by the use of technology, however. Internet technology and digital networks allow communication across states and to different parts of the world, which has provided opportunities for schools to be connected with a much larger community. No longer isolated, rural schools that are equipped with the latest technology, have access to people, places, and resources that can foster cultural understanding and prepare students to participate in a pluralistic, democratic society (Marshall, 2001).

Even in this technology age, though, rural students are at a disadvantage, believing they do not have a culture of their own. Garcia (1999) discusses this common misconception by describing a student's response: "I'm white. I have no culture" (p 67). One of my own teacher education students, after being asked about culture, said, "I don't know, I'm just a small-time farm kid..." This might suggest rural Americans have internalized a status inferior to mainstream America as a result of years of rejecting the idea that rural America had a culture, much less a culture worth recognizing. This premise strongly supports the need for a meaty approach to multicultural education that actively seeks to reconstruct an unjust system—an approach that deals directly with social structural inequality and "prepares citizens to reconstruct society so that it better serves the interests of all groups of people" (Sleeter & Grant, 1994, p 210).

The model for integrating multicultural education in rural schools where few minorities live and work must be a school wide effort with an integration of courses and

lessons that engage students in active research outside the walls of the school house as well as beyond the outskirts of the community. This model would include lessons that address differences between and among groups and, in turn, how these differences relate to how individuals as members of different groups make sense of the world. Students would begin this process by closely examining their own cultures within their own communities, along with current social, economic, and political conditions as well as their history. With knowledge of themselves and their own communities, students are better prepared to begin constructing an understanding about the social, economic and political struggles of other groups, historically and current day. To be sure, this approach to multicultural education goes far beyond adding a poster on the wall and talking about different heroes from time to time. These strategies must be “accompanied by a deep commitment to social justice and equal access to resources” (Nieto, 2000, p 8). The multicultural education approach proposed in this model endorses lessons that recognize rural as significant, and the people living in rural areas as active, pride-filled participants who continue to seek justice and equality through the fulfillment of personal and social responsibilities.

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The Importance Of Schools To Rural Community Viability

Thomas Lyson
Department of Rural Sociology
Cornell University

Much of what has been written about the benefits of small rural schools centers on student performance and outcomes. Craig Howley and his colleagues have done important work debunking the myth that “bigger is better” when it comes to the optimum size of schools (cf. Howley & Bickel, 1999; Huang & Howley, 1993). Indeed, they have gone so far as to say, “A school serving [even] 50 students cannot be judged to be ‘too small’ on the basis of any research known to the authors” (Johnson, Howley, & Howley, 2002). According to Huang and Howley (1993): “Results have generally pointed to a negative relationship between size and academic achievement. All else held equal, small schools have evident advantages for achievement.” The relationship between school size and achievement has been documented in scores of empirical studies (see Fowler, 1992, for a review).

Despite consistent empirical evidence showing that smaller schools produce more favorable educational outcomes than larger schools, school consolidation has been a fact of life for rural communities for at least the past 50 years. In 1930 there were more than 130,000 school districts in the United States (and many more individual schools). By 2000, the number of school districts had dwindled to fewer than 15,000. School consolidation has been driven by a belief that educational quality and economic efficiency would improve when schools became larger.

While considerable attention has been directed toward understanding the linkages between school size, educational quality, and student performance, a much smaller body of work has focused on the importance of schools to rural community viability. Most of what is known about the social, economic, demographic, and political consequences for rural communities that lose their schools come from a handful of case studies (Peshkin, 1978, 1982; Post & Stambach, 1999) and a small handful of surveys (Dreier, 1982; Lyson, 2002; Sell et. al., 1996).

Why Schools are Important to Communities

Schools in rural communities serve as a symbol of community autonomy, community vitality, community integration, personal control, personal and community tradition, and personal and community identity (Peshkin, 1978, 1982). Schools are places for sports, theater, music, and other civic activities. According to Peshkin (1978, p. 161), “Viable villages generally contain schools; dying and dead ones either lack them or do not have them for long. The capacity to maintain a school is a continuing indicator of a community’s well-being.”

As many commentators have noted, schools, churches, volunteer fire departments, post offices, and other civic institutions serve to solidify and define community boundaries (Loomis & Beegle, 1957; Lyson, forthcoming). Of all civic institutions in a village, however, the school serves the broadest constituency. It is a place where generations come together and where community identity is forged (Langdon, 2000). As Fuller (1982, pp. 234-235) noted more than 20 years ago, “To close a country school was to destroy an institution that held the little rural community together. It was to wipe out

the one building the people of the district had in common and, in fact, to destroy the community.”

In a study of schools and villages in New York (Lyson, 2002), I attempted to quantify and generalize what a school means to a rural community. I hypothesized that the social and economic welfare in rural communities would be higher in communities with schools. I found that the presence of a school was associated with many social and economic benefits. Housing values were considerably higher and municipal infrastructure was more developed in small villages with schools. The occupational structure in these communities was qualitatively different than in places without schools. Not only were there more people employed in the more favorable occupational categories, but there was more employment in “civic” occupations. Further, income inequality and welfare dependence was lower in villages with schools. In sum, schools serve as important markers of social and economic viability and vitality.

Policy Implications

It is important for policy makers, educational administrators, and local citizens to understand that schools are vital to rural communities (see Fuller, 1982; Lyson, 2002). The money that might be saved through consolidation could be forfeited in lost taxes, declining property values and lost businesses.

Given the positive attributes associated with schools, it is not surprising that when threatened by consolidation, residents in most small rural communities mount vigorous campaigns to keep their schools open (Peshkin, 1982). In some cases, novel solutions are crafted when two school districts merge. The school in one community might

accommodate the elementary school program, while the high school moves to the neighboring community. If no compromises are considered, challenges to school closings often move into the legal arena. When this happens, the social and economic impacts associated with losing a school can become part of the case against consolidation. In New York, for example, legislation was recently passed stipulating that a decision by a Board of Education to close a school in one community and consolidate enrollment in another community must undergo a State Environmental Quality Review (SEQR). The community that loses a school must be mitigated for that loss. While school superintendents and Boards of Education may believe they have good reasons for consolidation (Cummins, 1998), the SEQR process ensures that a village that loses its school and its residents are compensated for their losses.

School consolidation is likely to continue, especially in rural regions that are losing population. As the farm economy undergoes profound restructuring, parts of the Midwest are losing economically and socially viable populations, tax bases, essential services, such as schools, and retail establishments. But, there are also cases of rural communities that are thriving and, in doing so, retaining populations or even growing. A body of research shows that in communities where the citizenry is civically engaged, local businesses prosper, and that these factors anchor populations to place (Irwin et. al, 1997). Civic institutions like schools are places where residents come together to solidify bonds of community, work to address the challenges of sustaining their communities, and plan for the future.

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Accountability Implications of School and District Size Research

Craig Howley
Ohio University

Rural schools and districts are accountable to states—and now the federal government—for improving school and district performance. It's widely acknowledged that something called “closing the achievement gap” is the critical objective. This phrase means that (a) a state's low-performing districts and schools are continuously examined for higher achievement levels, and, (b) across entire state systems, district and school performance should be substantially more equal than it is in most states. Is this important to rural areas? The answer is “yes” for two reasons.

First, *poverty in nonmetropolitan areas continues to exceed poverty in metropolitan areas* (USDA, 2003). When poverty is not controlled for in statistical analyses, the performance of rural schools (on average across the nation) might be expected to trail national averages. It doesn't always do that, however, as the case of mathematics achievement suggests (Howley & Gunn, 2003).

Second, about *62 percent of all school districts* and *43 percent of all schools* in the U.S. are located in rural areas and small towns (Hoffman, 2001).¹ Accountability systems, of course, focus on district- and school-level results: when it comes to accountability, rural is not a “sidebar” conversation. The rural perspective needs to be understood and honored. From a systems perspective, the United States is a largely rural system. (This might be a dilemma for the nation, but it is mitigated by the fact that

¹ District proportion calculated by the author from data in the Common Core of Data, 1997-1998. Hoffman data are for 2000-2001. Approximately 30% of all students nationally are enrolled in these schools and districts (Hoffman, 2001)—also a sizable proportion.

schools everywhere deploy similar curricula, similar instructional routines, and arguably prepare students for suburban and urban destinies.)

What is to be done?

“Closing the achievement gap” specifies the problem, but is any reform proposal equal to the task? Many proposals are actually on the table.

Most of these proposals involve a *bewildering* mix of recommended changes in curriculum and instruction (e.g., better textbooks or fewer textbooks or shorter textbooks, continuous upgrades of technology and better use of existing technology, and more professional development or better conceptions of professional development, and so on). The odds that such changes will help policy makers and administrators achieve the desired goals are not actually well documented.

It’s no wonder: We have not even begun to understand how to put the right mix together in particular places to benefit particular students and communities, and reform efforts probably go awry as frequently as not. Some theorists suggest that the perpetual tinkering simply creates negative feedback loops (e.g., resistance and cynicism) that make it more and more difficult for reform to succeed (e.g., Tyack & Cuban, 1995; cf. Jennings in this collection). In any case, poverty has proven remarkably resistant to a host of expensive, troubled, and troublesome interventions.

“Closing the achievement gap” would seem to require an educational change less dependent on faithful implementation or hit-and-miss attempts to discover an optimal mix of reform tactics. What seems to be needed (among other things) is action that actually *improves the odds for good organizational and pedagogical decisions*; in other

words, something that does not itself depend on “fidelity of implementation.” Can such a miracle exist?

Achievement Levels and the Size of Schools and Districts

Probably such a miracle does not exist. But recent research on smaller size for districts and schools has repeatedly confirmed better and more equitable performance—for both schools and districts separately, and for smaller districts and schools *jointly*.

Smaller districts and schools are not silver bullets, and, like all places, they can be badly run and harbor bad teaching, bad administration, and poor performance. A body of research, however, has accumulated about the relationship between smaller size (both for *districts* and for *schools*) and school and district academic performance, in particular. In brief, smaller districts and smaller schools that serve impoverished or mixed social class communities do substantially better than larger districts and schools. Achievement *levels* are higher, and, more importantly, *equity* of performance improves throughout the state system. That is, smaller units help close the achievement gap—and evidence to this effect is available in multiple state-level replications.

Excellent summaries of this research literature are available in print and online (e.g., Howley, 2001, 2002; Howley, Bickel, & Strange, 2001; Lawrence and colleagues, 2002). Briefly, as of this writing, separate studies in *twelve states*² have done something very unusual in educational research: replicated findings again and again. The evidence strongly suggests that smaller districts and smaller schools boost achievement in poor or

² Alaska (Huang & Howley, 1993); Arkansas (Johnson, Howley, & Howley, 2002), California (Friedkin & Necochea, 1988), Georgia (Bickel, 1999a; Bickel & Howley, 2000), Montana (Howley, 1999a), Nebraska (Johnson, 2003), Ohio (Howley, 1999b), Missouri (Alspaugh & Gao, 2003), South Carolina (Miley & Associates, 2003), Texas (Bickel, 1999b; Bickel, Howley, Williams, & Glascock, 2001), Washington (Abbott, Joireman, & Stroh, 2002), and West Virginia (Howley, 1996). A national study was also completed recently (Howley & Howley, 2004).

mixed-social-class communities. Furthermore, smaller schools *and* districts improve the equity of achievement by breaking the bond between poverty and achievement levels. In smaller schools and districts, the influence of poverty on school and districts performance (e.g., the pass rates so often used to hold schools accountable) is typically cut by one-half, and sometimes (as in Montana), the relationship becomes practically and statistically unimportant (see Howley, 1999 for the Montana story). The findings have been compelling, and additional studies are reportedly underway in Kentucky and Texas (personal communication).³

Should All Schools and Districts Be “Small”?

This is a tricky question for a couple of reasons. First, most contemporary school-size researchers believe that the quest for “optimal size” leads directly to one-size-fits-all prescriptions of the 1950s, when the nation was told that all schools had to be large. People followed that advice so doggedly that the national system of schooling is now stuck with many schools that are far, far too large for the work now seemingly required of them (Lawrence et al., 2002). It seems wise to avoid the danger of repeating the 1950s

³ Other studies, however, have reported results that are consistent with those that look at the interaction of size and poverty. Various studies by Herbert Walberg and colleagues (e.g., Fowler & Walberg, 1991; Walberg, 1989; Walberg & Fowler, 1987; Walberg & Walberg, 1994) and by Valerie Lee and colleagues (cf. Lee & Loeb, 2000; Lee & Smith, 1993, 1995, 1997) suggest that smaller size (1) produces school and district performance more economically (see particularly Walberg & Fowler, 1987, for the district-level analysis), (2) that *achievement gains* for individual students may be maximized in smaller high schools, and (3) that the *equity of achievement gains* among individual students may be maximized in decidedly small high schools (see Lee & Smith, 1997, for points 2 and 3). Lee and Smith (1997) conclude that high schools of 600-900 students maximize achievement gains. Why is this a problem for rural states? Montana, with 80% rural population, in 1997 operates no rural high schools enrolling this many students. Nonetheless, Montana always outperforms most states on national achievement tests, despite having a large minority population (American Indians). National data sets produce average findings that principally reflect suburban and urban conditions, since most US residents live in metropolitan areas. State-based analyses avoid this problem. Moreover, even in rural states, the norms of size vary dramatically. While Montana operates many small schools and districts, rural West Virginia has consolidated furiously and operates rural schools and districts that are *huge* in comparison to those in rural Montana.

mistake: the point is that *variability is a good thing* when it comes to school size, not that all schools should be small schools (see Howley, 2001, for details).

Second, firm definitions of “small” are tied to enrollment levels that have little basis in research evidence. Down the road, these absolute definitions tend to become “optimal size”—again subverting the benefits of variability. As a very rough rule-of-thumb, a high school enrolling about 75 students per grade might be considered small—but schools larger and smaller than this seem to benefit students academically.

Third, and this is the key point, the studies that look at the *relationship* between size and poverty tell us that, indeed, one size *does not* fit all, that, in fact, the “optimal size” changes with poverty levels. Variability is necessary. From a policy perspective we might say: *optimal size is a moving target*. Smaller districts and schools benefit impoverished and mixed-social class communities most. The smallest schools likely benefit the poorest communities most strongly.

Smart Policy Making for Rural Communities

Given all that is known, and all that is unknown, what should policy makers and administrators do? The focus of the following recommendations is on rural communities, which face issues quite different from those that plague big-cities. In big cities, the issue is how to remake, on a more human scale, those obscenely large schools serving impoverished communities. The problems are nearly always *compounded* by legacies of intense urban racism.⁴

⁴ One might, for instance, argue that anonymity, bureaucracy, and crowding work to compound race-based fear and hate. Rural racism is nonetheless as widespread, virulent, and detestable as racism anywhere. With respect to school and district size, in some rural areas (e.g., on the urban fringes of big cities, in the south, or wherever black, brown, and red people reside with whites) “neighborhood schools” are promoted as a way to carry on legacies of race fear and hate. The discussion in this article *does not* address the

In rural areas, by contrast, the challenge is to retain existing smaller schools *and districts*. This means that in the typical case (that is, affluent rural communities aside) policy makers and administrators should resist the temptation to undertake widespread consolidations. In rural areas, most consolidations entail an *accountability cost*—on average, legislatures and administrators pay a price in terms of achievement levels and achievement equity when schools and districts serving impoverished areas are combined. Such combinations have *always* been easier in urbanized places—and that is why the problem there has now become a desperate crisis.

The recommendations that follow consider, first, district size, and second, school size. They are offered with rural issues foremost in the author’s mind. District recommendations are given priority here because findings about district size are so often overlooked. Readers should note, too, that such recommendations hardly ever appear in the literature on urban education. Massive big-city districts are taken for granted: deconsolidation has rarely been proposed, and when proposed there has always been poorly implemented, so far as the author is aware. The situation in rural America is far different: there, deconsolidation of districts that are too large remains distinctly feasible because the impediments are fewer and weaker (and sometimes it actually occurs).

Recommendations about District Size

1. **Struggle to retain small rural districts.** Districts larger than 3,000-5,000 students may be too large anywhere (see Howley, 2000). Large rural district size is a special problem in the southeast, where whole-county districts are common.

alleged values of “neighborhood schools,” which can be large or small. Transporting children great distances from their homes is not, however, a strategy that aims to deepen the relationship of school and community. That strategy harbored other goals, which remain unrealized for many reasons.

2. **Keep rural districts smallest in impoverished communities.** In impoverished communities, district consolidation is likely to hurt district accountability performance and it is likely to increase the inequity of achievement statewide.
3. **In impoverished rural areas, facilitate the deconsolidation of large districts.** Very large size makes improvement efforts more difficult at both the district and school level, as well as degrading school and district accountability performance.
4. **Vigorously assess claims that consolidation saves money.** Pre- and post-consolidation studies are rare, but the few that do exist suggest that the claims are false (e.g., Duncombe & Yinger, 2001; Streifel, Foldesey, & Holman, 1991). Since the largest portion of most state budgets are devoted to school funding, such claims resurface whenever states encounter serious fiscal crises (see DeYoung & Howley, 1992). The economic downturn that followed the events of September 2001 are a case in point: consolidation appeared quickly on state agendas.
5. **If planning a new district, tie size to operation of a single high school.** High schools help forge district identity; this recommendation also imposes a natural limitation to district size, and districts that are too large are a major unrecognized problem in US education.⁵ The limit thus imposed (a high school of about 1,000 students in the most affluent community implies a maximum district size of about 3,000 students—that is, about the size of the average U.S. district at present.

⁵ Robert Bickel and colleagues (Bickel et al., 2001) found cost and achievement advantages in Texas districts that operated a single high school. In states (e.g., Montana) that operate many small schools and districts, most districts are organized with a single high school.

Recommendations about School Size

1. **Distinguish smaller schools from schools-within-schools (SWAS).** SWAS is an *administrative simulation* rather than the creation anew of smaller schools. Little research has been conducted on SWAS, and none of the research cited in this article deals with SWAS.
2. **Make existing schools smaller by increasing grade spans.** A K-8 school with 400 students is a lot smaller than a 6-8 school with 400 students (do the math: $9/400$ vs. $3/400$). By increasing grade span configurations, one can use the same buildings to make schools that *really are* smaller.
3. **Maintain the smallest schools in the poorest communities.** There is widespread agreement that size exerts different influences in affluent as compared to impoverished communities. Create more small schools in poor communities.
4. **Don't sanction megaschools in your plans.** Even in the most affluent communities, there is no educational reason to build high schools enrolling more than 1,000 students. In the poorest communities high schools of 200 or 300 or 400 should be planned (or smaller, depending on circumstances). Size elementary schools accordingly.
5. **Consult other sources for practical counsel.** See Lawrence and colleagues (2002) for a range of school size issues, and Howley (2001) for detailed practical considerations related to decision making about school size issues. Lawrence and colleagues (in press) new report, *Dollars and Sense II*, provides counsel on how to build and operate good small schools at lower-than-average cost.

Remain Skeptical

It's worth repeating, in closing, that smaller districts and schools are not silver bullets! There is ample evidence, however, that, across a state system, smaller-scale operations *somehow* foster improved performance. Montana remains a good rural example, with 460 (on average small) districts and about 890 (on average small) schools enrolling about 150,000 students, including a minority population of about 13 percent, principally American Indians. Montana does basic education seemingly well—if you can believe the assessments results from the National Assessment for Educational Progress. Vermont, another largely rural state, is also a leader in this respect (Vermont high schools are about twice as large as Montana's, and Vermont's elementary schools are somewhat larger).

Are Montana and Vermont utopias? Doubtless they are not. Doubtless, great scope remains for improvement, and many improvements are needed. This is what Montanans and Vermonters insist, as well. These two rural systems, though, have put the evident advantages of humanly scaled educational institutions to work for the benefit of their children and communities. The result is a leg-up on the rest of the nation—not an otherworldly utopia.

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Rural School Bus Rides

Aimee Howley
Ohio University

Considering the pervasiveness of policies that promote school consolidation in rural districts, many students now face long bus rides every morning and evening. Little is known, however, about the effects of long bus rides on students' achievement, participation in after-school activities, and home life. This brief article summarizes the small body of literature that does address the question and offers tentative suggestions for policy and practice based on findings from this research.

The Effects of Long Bus Rides

Over the years and primarily as a result of school consolidation, the *school attendance areas* surrounding many rural schools have become larger. Now, more than half of all school children in the United States ride buses to and from school each day (Spence, 2000a, 2000b). And school bus riders in rural communities tend to travel considerable distances, often over rough roads (Howley, 2001; Howley, Howley, & Shamblen, 1999; Spence, 2000a, 2000b; Zars, 1998).

Given the exigencies of large school attendance areas and limited budgets, rural school administrators focus considerable attention on the logistics of inexpensively transporting large numbers of children over long distances. Often ride-time is the variable that enables administrators to keep costs within manageable limits (Zars, 1998). But long ride times concern parents, who wonder about the effects of bus rides on their children's well-being (Ramage & Howley, 2003). Moreover, renewed concern about student achievement, represented in state accountability measures and in the recent federal

reauthorization of the Elementary and Secondary Education Act (“No Child Left Behind”), suggests that educators ought also to pay close attention to the possible impact of long bus rides.

Understandably, educators and policymakers want to see evidence of the effects of long ride times before making costly changes. And, as yet, the evidence is rather sketchy. Nevertheless, a growing body of research speaks to the ways in which long school bus rides disadvantage rural students, families, and school districts. The adverse effects relate to (1) students’ family life and leisure, (2) students’ school performance, and (3) districts’ resources.

Family Life and Leisure

Although they are not as systematic as one might hope, studies of children’s experiences on long school bus rides indicate that time on the bus cuts into time for household and farm chores, family activities, and extracurricular involvement (Fox, 1996; Ramage & Howley, 2003; Spence, 2000a, 2000b). As a consequence, rural students often devote most of their waking hours during the week to school-related activities, and they miss out on the “down-time” with family and friends that contributes to balance and well-being (Zars, 1998). Furthermore, as Fox (1996) reports, family farms suffer when long bus rides limit the amount of time that children can spend on chores.

Some rural parents also believe that experiences on the bus can be detrimental to their children’s moral development. In particular, they worry about the practice of “double-routing,” which requires young children to ride buses with older students. Analysis of interviews with parents on the longest bus route in a rural Midwestern district

revealed that approximately 26% of comments related to this concern (Ramage & Howley, 2003). Parents of younger students shared worries about the rowdy behavior of high-school bus riders as well as their vulgar language and sexually explicit talk.

School Performance

Whereas anecdotal reports (e.g., Spence, 2000a, 2000b; Zars, 1998) suggest that long bus rides interfere with students' learning, little empirical research speaks to this concern. Anecdotal reports nevertheless indicate that long bus rides deplete children's energy, limit the amount of time they have for homework, and contribute to decisions by high-school students to include less challenging courses in their programs of study.

Only one set of research findings offers direct evidence of the effect of bus-ride length on student achievement. Based on Oklahoma data collected in the early 1970s, this study revealed a small but significant association between length of students' bus rides and their academic achievement (Lu & Tweeten, 1973). During a time when busing for desegregation was a controversial policy option for *urban* districts, even totally unrelated research with strongest implications for rural areas, was attacked for bad form. The Lu and Tweeten study received criticism (Zoloth, 1976) because it was conducted in the era of large scale busing to achieve racial desegregation—even though none of the students in the study were bused for this reason.

Clearly, recent attention to student achievement highlights the need for investigators to revisit Lu and Tweeten's research question. Nevertheless, methodological difficulties make this question particularly challenging to address. Easier to conduct are studies that examine the effects of long bus rides on conditions that have some bearing on

student achievement. For example, parent involvement in children's school experience has been shown in numerous studies to have a positive influence on student achievement. If long bus rides (a proxy measure for the distance between students' homes and their schools) were found to reduce parent involvement, then it might be reasonable to suspect that long rides would also contribute to reduced student achievement.

This reasoning prompted one team of researchers to query elementary school principals about the effects of long bus rides on parent involvement (Howley et al., 2001). Among principals in the five states included in the study, those whose students experienced the longest bus rides were the ones most likely to conclude that long distances between children's homes and their schools had a deleterious effect on parent involvement.

Clearly, other studies of this type are needed. In particular, it might be useful to investigate the extent to which long bus rides influence students' course-taking behavior, study habits, and engagement with school.

District Resources

In general, rural districts are the ones most likely to encompass large attendance areas, which necessitate long bus rides for many children (Howley et al., 2001). This circumstance suggests that rural districts may often be forced to stretch limited resources to support costly transportation programs. Not only might such districts be required to spend more than other districts to pay for transportation, they might also need to divert instructional funds in order to cover these expenses.

A recent national study investigated these possibilities. Using data from the US Census Bureau, Killeen and Sipple (2000) found that rural school systems spend more than other districts on transportation. Moreover, their analyses showed that, in comparison to other districts, rural districts expend a larger proportion of their budgets on transportation. And, in order to do so, these districts draw on resources that might otherwise be spent on instruction. Considering that per-pupil funding is also lower in rural districts than in other locales, high transportation costs seem to add to the burden already assumed by these disadvantaged school systems.

Even though district expenditures do not seem to have a direct bearing on student achievement, inequities such as those affecting many rural districts probably do contribute over the long term to reduced performance. Furthermore, when budget restrictions are simultaneously tied to practices that are known to harm achievement, their impact, though difficult to parse, may nevertheless be substantial.

School consolidation constitutes such a practice. In their efforts to centralize control and presumably to reduce costs, districts that bring about school consolidation actually encourage conditions that undercut student achievement. By increasing school size, such districts jeopardize the performance of their most vulnerable students, namely those whose limited family resources already place them at a disadvantage. As numerous studies have shown, the academic success of students from low-SES families is supported in smaller schools and districts and hampered in larger ones (e.g., Howley, 1996; Johnson, Howley, & Howley, 2002). Consolidation also typically results in increases in the size of school attendance areas, and, therefore, requires more students to experience

long bus rides. To the extent that long bus rides contribute added impediments to achievement, this circumstance compounds the negative effects of increased school size.

Conclusions and Implications

Long school bus rides represent a consequence of school and district consolidation, typically borne by rural students and their families. Moreover, with the new focus of “No Child Left Behind” on adequate yearly progress, rural schools will also suffer if their students fail to achieve optimally. Rural districts, therefore, may need to consider some politically difficult alternatives. Both relate to practices for keeping schools small.

First, rural districts should resist efforts further to consolidate existing schools. In some states, resistance may involve lobbying to convince legislators to modify economy-of-scale guidelines for new construction. If lobbying proves unsuccessful, districts may need to make the choice to live with or renovate older buildings rather than tolerate consolidation resulting from the decision to undertake new construction.

Second, rural districts should consider ways to “de-consolidate” previously unified schools. Particularly in districts that serve low-SES students, the decision to add more schools of smaller size works on behalf of improved achievement. Nevertheless, because districts that serve low-SES students typically need to draw support from already impoverished communities, local initiatives may be inadequate to sponsor this undertaking. State policy makers should consider ways to assist such rural districts with efforts to rebuild networks of small community schools.

Although efforts to retain existing small schools or construct new ones represent the alternatives most likely to impact student achievement, other less robust alternatives may help reduce ride length or offset some of the negative effects of long bus rides. Policy options that might provide some relief to students who currently experience long bus rides include the following: (1) special transportation funding to support districts that choose to run “express” buses from remote locations in addition to “local” buses from neighborhoods closer to district schools, (2) provision of “late buses” that enable students from the most rural neighborhoods to participate in extra-curricular activities, and (3) increased support for home-schooling and virtual schooling arrangements that might provide alternatives to students whose home are located at great distance from consolidated public schools.

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Implementing Accountability Reforms: Challenges and Victories in Rural Schools

Nancy E. Jennings
Bowdoin College

Nearly one in three of America's school-age children attend public schools in rural areas or small towns of fewer than 25,000 people. Yet if you listen to the education policy debate, particularly around the impacts of the new "No Child Left Behind" law, chances are you still will not hear much about rural schools. In most of the 50 states, they are left behind from the start.

(Rural School and Community Trust, 2003)

That rural educators would view "No Child Left Behind" with skepticism is hardly surprising. Kannapel and DeYoung (1999), in their review of rural education research, comment that many rural educators see most policy reforms as "generic" and "standardized" programs that do not acknowledge the "strengths and needs of rural schools" (p. 72). Although there has been some recent press about states with primarily rural populations responding to "No Child Left Behind," the general focus has been on the policy's impact on urban schools. Furthermore, policy researchers traditionally use urban or suburban schools as sites to examine policies' effects (some recent examples are Cohen and Hall, 2001; Barnes, 2002), so the effects of NCLB on rural schools may neither be widely reported in the media nor deeply examined by researchers.

Ignoring the impact of NCLB on rural schools is risky because the policy *will* likely have effects on rural schools that are different from their urban counterparts. Rural educators have expressed concerns about making adequate yearly progress goals when only a small number of students take state assessments (Coladarci, 2003); about choice options (e.g., vouchers) in single-school districts, and about hiring and retaining teachers

and teacher aides with newly mandated qualifications (Reeves, 2003). These measures may be neither feasible nor manageable in many rural districts.

How will NCLB play out in rural schools? How will rural schools make sense of the policy's messages? We are only beginning to see some of the early effects of this act on rural schools, and it will be some time before we can assess its full impact. But, examining the impact of a state-level policy similar to NCLB that was adopted prior to federal legislation may provide some clues to how NCLB will spin out.

I have been following the implementation of high-accountability/high-stakes measures in South Carolina for some time. These reforms, though somewhat different from NCLB, contain many of the key elements of the new federal policy. I would like to share two stories about one rural school's responses to the state-level policy. In discussing these stories, I do not want to suggest that I think rural schools and districts, or schools and districts anywhere, *should have* to respond to policies such as NCLB. Nor would I suggest that authentic, genuine responses to this type of policy would necessarily produce better education for rural students. I take a more pragmatic view. Like all schools, rural schools right now *must* respond to federal and state-level policies that are grounded in accountability, high-stakes tests, and disciplinary sanctions. Understanding better how to respond wisely, and even perhaps how to respond so that children may be served well, seems essential in dealing with the current policy climate. These stories are offered in that light—to suggest some possible benefits and problems that rural schools and districts may face as they try to implement the federal legislation. Before looking at the specifics of this school, I want to summarize South Carolina's policy agenda in recent years.

South Carolina's Policy Climate

In the past 15 years, South Carolina practitioners have experienced three distinct state reform initiatives. In the mid-1980s Governor Richard Riley orchestrated the Education Improvement Act, which focused instruction on basic skills, strong accountability measures, and centralized authority at the state level. Under this reform, the state mandated a long list of basic skill objectives that teachers were to meet and prescribed how many minutes per day were required to teach individual subject areas. Students were tested at particular grade levels, in tests known as BSAP, and sanctions were applied both to students and schools that had low test scores.

In the mid-1990s the state instituted another layer of reforms calling for a radical change in curricular focus and devolution of authority to local schools. South Carolina approved its first curriculum frameworks in 1993 and in subsequent years adopted frameworks in all core subjects. These frameworks, like standards in most states, advocate curriculum that is both conceptual and content-rich. The frameworks suggest that such practices will be effective in actively engaging students in constructing meaning of ideas, integrating subject area instruction around themes, and engaging students in authentic tasks. This was a far cry from messages about instruction contained in the previous reform. New state assessments, the Palmetto Achievement Challenge Tests (PACT), began to be developed to evaluate the new kind of learning that state frameworks advocated. Because these tests were very different from the old BSAP tests and because test development takes time (the PACTs were not in full operation until 2000), the strong accountability measures that schools and teachers had grown used to

under the Education Improvement Act were relaxed. Accompanying these new curricular ideas, the second reform initiative advanced changes in governance designed to give more authority to districts and schools. State legislature passed Act 135 in 1993, which required all schools to design their own curricular plans. Schools were required to involve teachers, parents and community members in drawing up their new goals and plans. Thus, this layer of reform was not only a huge change from basic skills, mandated time limits, and pervasive testing of the previous era, it also attempted to change the authority relationship between state officials and local school practitioners.

Now a third layer of reform is in the process of unfolding. The legislature enacted the Education Accountability Act of 1998, which marries ideas about curriculum contained in the reform immediately preceding it, i.e., new standards and assessments advocating conceptual understanding and higher order thinking, with the strong accountability measures, centralized authority, and sanctions characteristic of the first layer of reform. Similar to NCLB, the Education Accountability Act requires yearly testing in most grades in reading and mathematics and a public reporting of school test scores. Schools must have a certain percentage of students scoring “proficiently” on state assessments (PACTs) and must increase the percentage of “proficient” students yearly. In addition, school test scores must be disaggregated by category of student (i.e., race, SES, and special needs). Improved scores must be evident in all these demographic categories, not just in the overall student population. If schools do not meet the required levels of proficiency and growth, they are classified as “unsatisfactory.” Once a school gets labeled as such, a progressively more debilitating series of sanctions is applied, including choice options and, ultimately, closure and reconstitution.

Butler School District's Response to *Education Accountability Act*

Butler is a small rural town in the center of South Carolina. There is one elementary school (grades pre-K-5), and a combined middle and high school (grades 6-12). Although the town's population is approximately 60 percent African-American and 40 percent white, the public school student population is 92 percent African-American. Ninety percent of the students receive free or reduced-price lunch. Most white students in the town attend a private, "white-flight" K-12 school.

Butler was an independent school district until 1996. When independent, Butler's central staff included a superintendent, a business manager, and a special education director. Principals initiated and constructed any curricular work and professional development that occurred. Since consolidating with a larger district, Butler has had access to a district-level staff development coordinator and curriculum development teams. The larger district, however, includes a poor urban area that, as the superintendent acknowledged, consumes much of the district's resources and attention. Although no longer a stand-alone rural district, there is little evidence that consolidation has changed much in Butler either in terms of funding or in terms of district-level influence.

Butler students have never done well on state or national assessments. It was one of the first districts in the 1980s to be labeled as "severely impaired" by state policymakers for low scores on the state-mandated assessments (BSAP) and in 2001 only 4% of seniors scored above 1000 on the SAT. In the first public report cards in 2001, Butler's middle/high school received an unsatisfactory grade, and the elementary school was labeled as below average. Thirty percent of Butler's tenth graders failed all three

parts of the state exit exam (39% passed all three) and only 12% of elementary students scored at a proficient-level on the PACTs (45% scored at the basic level and 43% were below basic).

Butler has just begun reacting to these disheartening statistics and to EAA in general. The district's initial responses, though, raise two issues. The first deals with the way previous reforms shape Butler's response to current reforms. This is not solely a rural school issue, but I suggest that the issue may play out with greater consequences in poor rural schools like Butler. The second issue focuses on the effects of small school size on Butler's response, and as such does seem more applicable to rural schools.

Legacy of Previous Reform

Most of Butler's teachers and the two principals either began teaching during the first wave of South Carolina's policy initiatives or were students in South Carolina schools at the time. Thus they were schooled in an environment of basic skills and centralized authority. When asked how they thought they could improve student scores on PACT assessments, teachers cited such things as increased practice on computation, word attack skills, and phonics—measures similar to ones they took to improve scores on the old BSAP assessments. The elementary school principal commented that the only difference between the old state assessments (BSAP) and the new ones are that students may have to say *why* they put down the answers they did. He commented, “The biggest change—well, the only change—is the open-ended questions . . . Before it was A, B, or C and now it's A, B, or C and why?” Because the principal saw this as the primary difference, he continued to give students “principal homework” worksheets with

multiple-choice questions to practice their skills. His only alteration was to scrawl the question “Why?” after each problem so that students would have to explain their choices.

These comments on their response to low test scores suggest that many practitioners see the state’s curricular frameworks and the new state assessments as calling for the same kind of skills and knowledge that was called for in the old basic skills reform. This is true even though all the practitioners I interviewed said they were familiar with the state’s curricular frameworks and new PACT assessments. So even though to an outsider the visions of instruction that inform the state’s new frameworks and assessments appear vastly different from the old basic skills reform, to these practitioners the differences seem minor. As teachers and the principals talked about improving “instruction” (i.e. test scores) in response to *EAA*, they talked about needing to do *more of the same* rather than *something different* in order to improve the passing rate on state tests.

Practitioners may be correct that the differences between the old basic skills instruction and the new “conceptual” understanding instruction are not as great as policymakers suggest. Having children memorize their multiplication facts and sight words may result in higher test scores now just as they did in the past, despite test developers’ claims that the new tests assess different kinds of skills and understandings. But there is the possibility that interpreting the state’s curriculum frameworks and the new PACT tests as calling for the same instruction as previous instructional policies will not be a useful solution to the “problem” of *EAA*. Rather than asking what new practices may be needed to improve learning, Butler teachers may be falling back to previous and familiar practices that may not have much potential to improve student achievement

The legacy of past reforms clearly shapes how Butler is dealing with EAA. It may also shape how the district responds to NCLB. Policy implementation in all schools relies on practitioners who will read and interpret the new legislation through, among other things, their past experiences with reforms, current school practices, their own beliefs about teaching, learning, disciplinary knowledge, and their students' capabilities (Cohen & Ball, 1990; Tyack & Cuban, 1995; Jennings, 1996; Cohen & Hill, 2001). Butler's practitioners seem to be doing just that.

So, what does this say to policymakers? Butler's story of old policies shaping new ones suggests that practitioners may need not only to become familiar with new instructional ideas that underlie state standards and assessments but may need help in seeing how the new ideas differ from old ones. Unless discrepancies are pointed out, practitioners may spin their wheels in response to a new policy, doing more of the same when that strategy may provide only limited results.

Although doing more of the same may have negative consequences for all districts, it might affect poor rural schools like Butler even more harshly. Reeves (2003) writes: "The small populations and geographical isolation of many rural schools and districts greatly affects access to resources, thereby affecting a school district's ability to build the capacity necessary to comply with NCLB." Helping teachers analyze and change perspectives on instruction is difficult work that requires thoughtful analysis of current practices and possible new practices (Duckworth, 1987; Wilson, Shulman & Richert, 1987; Knapp, 1997). Using up limited resources, and consequentially limited local capacity, on response strategies that do not produce the desired results may leave Butler without the resiliency to change course in its response to low test scores. This

may result in schools like Butler permanently inhabiting the lowest rungs on the state's rating scales.

The Feature of Smallness

In discussing features that shape their schools' responses to EAA, both the elementary and secondary school principals cited the small number of students in their schools and their familiarity with students and their families. Both administrators said that they knew smallness and familiarity gave them options that would not be available to administrators in larger, urban schools. For instance, when Butler high school officials received the exit exam scores of the school's 10th graders, they organized teams of teachers who had the low-performing students in their classes so that they could develop strategies to work across disciplines on these students' skills. The principal commented that because the number of low performers is small and the students are known to them, the school can address individual student needs. The principal was hopeful that individual plans and attention to these students would bring large gains in their test scores. The story at the elementary school was similar. Teachers in this school felt they would make large gains on next year's reading tests because they had devised programs for each child who scored below basic on the PACTs. One reading specialist commented that she was already seeing improvements in the targeted students' skills.

These stories of individual attention for low-performing students are in great contrast to an urban elementary school principal's approach to EAA. Her school was also labeled unsatisfactory, but unlike the principals at Butler, she was not able to address individual needs as a way to improve the school's test scores because her school has an

80 percent turnover rate in student population most years. Because she is not at all sure that students for whom she might devise individual plans will actually be students taking PACT assessments in her school next year, her response to being labeled unsatisfactory was to adopt school-wide programs reputed to help low-performing students generally and to hope that the students who end up taking the PACTs at her school in the fall have had similar programs at whatever schools they attended. The idea of targeting individual student needs as a strategy to improve test scores was a luxury she could not imagine her school having.

The smallness and “knowness” of low-performing students in Butler allowed teachers to do exactly what state policymakers hoped—address the needs of each and all students who might be left behind. But the smallness and “knowness” of students also had a downside in Butler’s response to the state policy. Consider the following two examples. The elementary principal concluded that part of the reason some students failed the tests was that they live in chaotic homes, do not get much sleep the night before the tests, and do not eat healthy food. The principal’s plan to address this problem was to have students who had failed stay with teachers or other people in the community for a few days before the tests were given so that they would be well-rested and fed when they took the tests. The principal knew the family circumstances of most of the low-performing students, and knew that the community would be willing to cooperate with this plan. The principal also knows that the number of students taking the tests at any one grade level is so small that a minor increase in a small number of student scores could make the difference between the school being labeled “below average” and being labeled “average.”

The secondary school principal knew that five of the students who had failed the 10th grade exit exam were interested in learning a trade, so the principal was making sure that these students and their families knew of a vocational education program in a neighboring high school. The principal commented that having these five students transfer might be a “win-win” situation. They might get a program that interested them and the school’s next year PACT tests might go up.

There is nothing inherently wrong with either of these principals’ actions, but they do little to actually improve student learning. If policies such as South Carolina’s EAA or NCLB *are* to have any potential at all of helping low-achieving children learn more in schools, it will not happen if, because of their school’s smallness, rural practitioners are able to “game” the system by manipulating a small number of students’ lives. Smallness and familiarity with students can help rural practitioners genuinely implement the spirit of these policies, but they can also give practitioners the ability to circumvent policymakers’ intentions and do little to improve their students’ learning.

Conclusion

What do these stories from Butler have to say to rural educators as they face the consequences of NCLB? First, that rural schools may be vulnerable to these policies not only because of reasons such as those cited in the beginning of this paper (i.e., small student sample size, difficulties with choice options, lack of qualified teachers and teacher assistants) but also because the work these policies are asking schools to undertake is difficult and confusing. Rural schools with more limited resources and capacities than many of their urban and suburban counterparts may not have the ability to

recover from the mistakes and wrong turns that are inherent in this kind of work. They may not have the time or resources to try alternative strategies to improve low test scores. Without the ability to take a wrong turn and then do something different, rural schools may find themselves always struggling to achieve satisfactory school ratings.

But even though rural schools may be most vulnerable to policies such as South Carolina's EAA and the federal NCLB, they may also be the most likely schools to live up to the rhetoric of these policies—and if one wants to be generous to policymakers, to live up to the policies' intentions. Butler's response to focus in thoughtful ways on individual students who performed below standard on state assessments seems exactly what all schools would need to do if they were to improve student learning as a result of these policies. Because the number of students who are low performing is small, and because these students are well known to many practitioners in the schools, plans to address their weaknesses can be both devised and carried out to good effect. This stands in marked contrast to the urban school's experience cited earlier.

Butler's experience thus far with EAA suggest that features common to many rural schools—small size, close community, limited resources and capacity—can simultaneously be positive and negative factors in responding to the current crop of high-stakes accountability reforms. Whether these factors benefit students or harm them will in part be determined by the clarity with which rural practitioners articulate to state and federal policymakers the real and difficult work these policies are demanding, and the needs rural schools have to undertake such work. But more than this, whether rural students will be harmed or benefited will be determined by how well policymakers listen to rural practitioners.

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