Rural Gifted Education: A Comprehensive Literature Review

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This review of literature about gifted rural education reveals not only important information but the need for further work. The concepts presented have applicability that is not exclusively rural, but they derive from studies done with rural students and take rural culture, history, and circumstances into account. Understanding the context of gifted rural students is essential if educators are to identify and teach them effectively. The author notes that doing so is critical for the sustainability of rural communities. These communities need gifted and talented students who understand and love them to invest their own lives in caring for such places. The author groups the studies reviewed into sections about rural values and culture, being gifted, identifying gifted rural students, options for educating gifted rural students, and teaching teachers to teach gifted rural children.

Introduction

This peer-reviewed literature (1990–2003) review shows there is good work being done in the U.S. to test assumptions about educating gifted rural children and to build a body of knowledge about this important subject. Although this work frames essential issues, it is also a plea for continued research. These studies create foundation blocks for more experimental, longitudinal, and replication studies in other rural places. They define issues and identify innovative strategies that could be adapted to new studies and programs in other rural communities. Not only do they suggest parameters for further work, they also demonstrate the importance of adapting these strategies to local rural cultures and conditions.

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Because the research is fragmentary, it is not possible to draw broad conclusions; and some conditions described are, of course, not unique to rural students. However, this work forms and informs the literature on gifted rural students. What the authors report may not be uniquely rural, but it applies to gifted rural students and those who work with them.

The issues underlying the education of gifted children in rural places are problematic and complex. To understand them, we must consider not only rural strengths of family and community cohesiveness but also rural biases. Embedded in rural culture may be confusion between democratic principles and elitism, negative attitudes about giftedness, and a predilection for implementing the easiest but not necessarily most effective ways to educate gifted rural students. These strengths and biases affect not only the education gifted rural students receive, but whether or not they are even identified as gifted.

One reason this research is important is that each child deserves the right to opportunities that challenge his or her abilities and, in doing so, maximize his or her potential. But another compelling reason is that rural communities cannot afford to lose the contributions gifted students can make to rural community, culture, and economy. Rural places and ways of life are under extreme pressure from urbanization—not only from in-migration and out-migration but also from the extension of media and technology into homes no matter how isolated geographically. To nurture and sustain rural ways of living, rural communities need articulate leaders who understand and love rural places—people who are visionary and deeply rooted in rural life and who will create new businesses and products, stories, music, art, and responsible ways to develop resources (Lawrence, 2004).

Many gifted students from rural places want to stay in their communities instead of leaving to find what they are told is suitable work. This Devil's bargain—love it then leave it—seems in part due to a failure to imagine what might be possible if, as adults, they invested their abilities in rural communities. But other features of rural culture make doing so difficult. Fatalism ("there's nothing we can do, so let's not bother trying"), negative self-image ("we're just dumb hicks"), self-victimization ("it's all our fault"), and compartmental-

ization of appropriate roles for women are hardly the ingredients for sustainability (Lawrence, 1998). It is critical that we consider these and other traits in rural culture to understand more fully how best to educate gifted rural students. And that is what these contemporary studies examining gifted education begin to do.

Methodology

Not all literature reviews include a Methodology section, but I do so here to provide the reader with useful information concerning the scope and applicability of the details and generalities presented. In order to find recent peer-reviewed literature on gifted education in rural communities in the U.S., I examined all of the journal articles and fugitive documents identified by searching ERIC using the search terms, *rural* and *gifted* and delimited by the publication type, *research report*. The search was also restricted to publication dates between 1990 and 2006 to consider work completed since the last review of this type (Colangelo, Assouline, & New, 1999). The articles found through this search strategy identified studies using quantitative and qualitative methodologies and often triangulation with both. The qualitative studies were based on methods such as interviewing, case study, document review, and observation. The quantitative studies used surveys and review of existing data, including test scores. In some instances, such as with a case study, the *n* was one individual who was studied over time and in depth. In other reports, the number of participants was much larger.

The scope of the articles is quite wide, and this literature review presents them in sections that sometimes overlap; not all studies fit neatly into a retrospective summary that is organized thematically. The sections are Rural Values and Culture, Being Gifted, Identifying Gifted Rural Children, Options for Educating Gifted Rural Children, Teaching Teachers to Teach Gifted Rural Students, and a brief conclusion.

Literature Review

Rural Values and Culture

What is rural? Some researchers identify rurality using the U.S. Census Bureau definition of 2,500 or fewer residents in areas not defined as urban.[1] Beyond the census definition, it is also important to recognize the differences among rural places because, like gifted students, their individual attributes offer different opportunities. Gjetlen's (1982) typology of rural communities is still useful: stable, depressed, high growth, reborn, isolated, and rural resort (a category I add with his permission).[2] Gifted students in stable farming communities face different challenges than those living on the edge of suburban encroachment, in extremely isolated areas, or places in which extractive resource development has ravaged the land; and these differences lead to varied outcomes.

Who is gifted? Most researchers in the studies reviewed here considered students testing in the 98% or 99% percentile as gifted. In a few studies, however, local norms of placement in accelerated classes defined the population, as well as teachers' recommendations, grades, and sometimes identification by parents.[3]

In his 1998 article, Craig Howley reminded us that *education* (*e ducere*—to lead out) is very different from *schooling*, which implies teaching and learning, a narrower range of skills and information designed to mold the learner to fit a predictable goal. In contrast to schooling, education needs to nurture inventiveness, creativity, discipline, research skills, inquisitiveness, and aspirations in its students and their teachers. As C. Howley notes, some of the traditional values of rural places work to educate children; others do not. The importance of family and community, a strong work ethic, deep ties to the land, and stewardship as the ultimate test of accountability provide a solid base. Fatalism, fearful dependence on the past ("if it was good enough for my grandfather, it's good enough for my grandson"), the self-image that rural people are ignorant and rural knowledge is unimportant, and acceptance that to fulfill "higher aspirations" children must leave—all work against the sustainability of rural life.

C. Howley (1998) contended that rural *schooling* often seems to promote goals that destabilize rural communities, such as encouraging students to seek high-status jobs that require breaking the bonds—construed as bondage—to family and place. As C. Howley and associates (C. Howley, Harmon, & Leopold, 1997) pointed out in their article, the goals of rural schooling are often framed as a struggle between "modern and premodern" ways of life. But according to these authors, the "modern" way of life in which bigger is better and new is preferable to old reduces people and society to a "quest for status [that] valorizes greed and undermines the generosity and care that functional communities require" (C. Howley et al., 1997, p. 30). C. Howley et al. (1997) argued that dysfunctions of modern society have become so intrusive that many urbanites question the trade-offs: atomized families, shredded communities, pressure to work 24/7, and careless disregard for the natural world. Yet, as C. Howley stated in his 1998 article, "some of us who study rural education have argued that the State conducts rural schooling on purpose to disabuse locals of their local ways of being and knowing" (p. 3). This insight suggests an important reason why rural communities may need to nurture gifted students: These students understand the value of rural life and may find new and creative ways to sustain what is valuable in rural places.

In an analysis involving 24 Wyoming adolescents attending a competitive summer program, Cross and Stewart (1995) examined the ways in which rural culture affects gifted students. The researchers discussed three emergent themes distinguishing these rural students from urban peers: relationship to family and community, differences in personal development, and appreciation of time. The rural students thought of their schools as an extension of family, with appreciation for the support they received, but also concern about always being known, as opposed to the anonymity urban students experience. The students also reported that they were identified through participation in extracurricular activities, so they were not stigmatized by being bright. Unlike suburban students who sometimes are stressed because there are too many options, the rural gifted students were excited about challenging academic work. Nevertheless, they were concerned about the lack of opportunities. Many students also worried about wasting their time and experienced time as continuous

and slow moving. These perceptions differed from those of suburban and urban gifted students who tended to experience time as brief and fleeting. In this study, the rural culture and community seemed to be more supportive than is sometimes the case, and the strengths of rural culture helped gifted students do well.

Another strength of rural culture is the value it places on *stewardship* as articulated by Edmund Burke, a social contract between the dead, the living, and those yet to be born (Burke, 1790/1982, p. 152). C. Howley (1998) believed that stewardship is a fundamental element: Unless we see ourselves as part of this continuum, we cannot function as if there were a past or as if there will be a future. Instead we live in the present—consumed by satisfying immediate goals, unaccountable to any meaningful standard. From this perspective, we will lose our resources if we do not nurture them, and these resources include our gifted children. Schools need communities, not only because communities raise taxes to pay for schools, but because communities construe education as a shared commitment and responsibility.

Despite the frequently cited "brain drain" in rural places, C. Howley and associates (1997) reported that many bright rural students want to stay in their communities. To do so, however, they have to accept "the bad-luck bargain of low pay, low-status employment as the necessary price of their aspiration to cultivate local roots" (C. Howley et al., 1997, p. 4). Staying requires enormous courage and self-knowledge because it violates the dominant assumption that "happiness" requires mobility, acquisitiveness, and status.[4] This definition serves as a disturbing contrast to the "good life," identified by rural philosophers such as Wendell Berry who decry the ways in which modern society has abandoned foundational ethics based on connection to land and animals to the tyranny of machines (C. Howley et al., 1997, p. 4).

Commentators like C. Howley and his colleagues (1997) find it ironic that rural schools and communities tell gifted students they must leave in order to have fulfilling lives—lives made fulfilling by jobs available only in cities. This view of urban life overlooks the burden of higher costs for housing, food, and other necessities of life, as well as the strain of living and working in a high-density population. It dimin-

ishes rural life, while at the same time creating false hopes for finding a "happy" life at great distance from family, friends, and community.

Some empirical grounding for these insights comes from the 1997 study by C. Howley and associates (p. 10) comparing academically accomplished rural students with rural students at large who attended public schools in West Virginia in 1994–1995. Through a questionnaire, the researchers found that all participants valued a clean and healthy environment, jobs that pay well, and safe activities. The gifted students, however, valued good schools more highly than the students at large, and they were pulled more strongly by the lure of "modern" life. Even so, they were less dissatisfied than other students with their rural communities, perhaps because their capacity to cope was bolstered by access to greater resources—"affluence, school success and [freedom from feelings of] alienation" (Howley et al., 1997, p. 26). In this study, many gifted students reported that, as adults, they would like to live on the edge of a rural community but within commuting distance of work. This finding, of course, requires rural educators to reexamine the assumption that bright rural students typically want to leave their communities.

As these analyses suggest, rural life in general is neither devoid of meaning nor hostile to gifted students. Nevertheless, even studies indicating that not all gifted rural students are lured away do not consider what might happen if more gifted rural students invested themselves, their talents, and their education into revitalizing their communities. Perhaps their efforts would help staunch the flow of jobs from rural places, the devouring of family farms by agribusiness, and increased dependence on low-paying service jobs.

Being Gifted

Just as there are many types of rural communities, there are also many types of gifted children. Gifted children may be born into any rural community, into families that are rich or desperately poor, and into any racial, ethnic, or religious and cultural group—either dominant or subordinate. Giftedness occurs throughout the population and is not skewed by race, ethnicity, or culture. However, this is not true of schooling. The process of nurturing giftedness into a talent is molded by the realities into which a child is born: health, wealth, ethnicity,

race, gender, place in the family, culture, location, and moment in history. These random circumstances of birth influence how giftedness and self-perception evolve and even a child's likelihood of being identified as gifted.

All gifted children face biases coming from the assumption that they differ from other students not only in terms of intellectual ability, but also in terms of "super powers" that make it easy for them to navigate through school to engaging careers and fulfilling lives (Plucker, Cobb, & Quaglia, 1996, p. 3). The stereotypes that lead to biases are, of course, slower to change. Moreover, rural gifted children must also deal with the stereotype that they come from a subordinate and less valued culture. If they are poor, Black or Hispanic, female, from broken families, or suffer problems with physical or mental health, they face an even more pervasive and wider range of biases. Educators may fail to identify as gifted many children in these circumstances, and they may even see such children as difficult or suffering from Attention Deficit Hyperactivity Disorder (ADHD).

Several researchers, including Schuler (1999) and Abell and Lennex (1999), note that gifted children have a heightened sense of intellectual curiosity, a strong need to excel, determination to persevere, and often a preference to lead or control. Furthermore, they may exhibit greater "insightfulness, need for mental stimulation, need to understand, excellent sense of humor, acute self-awareness, tendency toward introversion, aesthetic sensitivity, sense of justice, empathy, and perseverance" (Schuler, 1999, p. 24) than their nongifted peers. But to be gifted is by definition to be different, which suggests giftedness confers a mixed blessing on children and their parents.

Although society may value the products of the gifted—great art, music, inventions, and so on—it also tends to devalue gifted people (Schuler, 1999). Moreover, in many rural communities, the value of *not being* exceptional makes being born so even more difficult. The anxieties of gifted children about fitting in and being accepted; finding challenging courses and, later, jobs; encountering unsympathetic teachers; and having to leave home to find suitable work all increase their level of stress. Even well-intentioned adults may not realize that gifted children are vulnerable, and few gifted students will ever have more than a superficial contact with guidance counselors, whose limited time is usually taken up by students with more obvious prob-

lems (Schuler, 1999, pp. 33, 91). "Gifted students' needs too often are placed last because it is assumed that they will succeed with no special provisions, and students with learning difficulties are competing for the primary teacher's time" (Abell & Lennex, 1999, p. 10). As these authors suggest, giftedness helps many rural children excel academically, but it can also make life stressful. This is, of course, true for gifted students living anywhere, but, in rural communities, the pressure to not stand out or excel may make stress more extreme.

Furthermore, gifted rural children and their parents often find that there are insufficient services and options for them in rural places. Several factors contribute to this lack: the tendency of many rural people to accept the status quo, lower funding levels for programs with few participants, untrained staff, and fewer specialists. The tendency to value self-sufficiency and suspicion of urban solutions offered by experts can also make it more difficult for rural people to ask for or accept help from outsiders (Hébert & Beardsley, 2001, p. 86).

Emotional Vulnerability of Gifted Rural Students

Kazimierz Dabrowski, who is referred to in many of the studies reviewed here, saw heightened sensitivity and emotional intensity (which he called *overexcitabilities*) in the psychomotor, sensual, intellectual, imaginational, and emotional domains as the "building blocks" for development. According to Dabrowski, both emotional and intellectual potential for overexcitability are most important, but emotional potential ultimately controls intellectual capacity. His theory of positive disintegration postulates that there are five levels of human development, each of which breaks down or disintegrates successively to make way for the next level. However, as research based on Dabrowski's theory reveals, within the unfolding of potential also lies the capacity for unhealthy development. The many individual papers abstracted in a monograph from the University of Kansas titled *The Emotional Price of Excellence* are a sobering reminder that gifted children's capacity for overexcitability includes the capacity for extreme tension that may tip the individual into mental illness.

In their 1996 study, Benge and Montgomery used Dabrowski's analytical framework to examine three twice-exceptional gifted rural male junior high school students who had been diagnosed as having disruptive behavior disorder, including conduct disorder and oppositional defiant disorder (p. 3). They pinpoint the problem, stating that "the paradox present for students who are gifted and have E/BD [emotional and behavioral disorders] is that within the emotional overexcitability, the human suffering brought into focus is often their own" (Benge & Montgomery, 1996, p. 394) Their heightened "emotional sensitivity produces great intensity of feeling, anxiety, affective memory, fear and guilt," (Benge & Montgomery, 1996, p. 394).

Heightened potential increases susceptibility to stress and anxiety, which, if left untreated, can have serious consequences for the individual gifted student and for his or her family, school, and community. There is evidence, for example, of a linkage between manic-depressive illness and giftedness (University of Kansas, 1995, p. 18), as well as between giftedness and unhealthy perfectionism. Another consequence of this linkage is the tendency of some professionals to misdiagnose gifted children as wrestling with ADHD, a learning disability, and emotional disability. Such misdiagnoses occur because of the overlaps between characteristics of these conditions and giftedness. The overlapping characteristics include "intensity, hyperactivity, inattentiveness and daydreaming" (University of Kansas, 1995, p. 22). Moreover, when gifted children are subject to social norms that severely limit their options, their "giftedness does not dissipate; it is often redirected through unacceptable social behaviors" (University of Kansas, 1995, p. 29). The authors suggest that such dynamics may be particularly evident in rural communities in which traditional cultural and religious beliefs narrow the range of behaviors that are considered normal.

In many cases, such communities maintain stricter control over the behavior of girls than of boys. Whereas boys are permitted to excel and to challenge authority to some extent, girls may be expected to downplay their accomplishments and to fit in socially. Under such circumstances, gifted rural girls are particularly vulnerable. They may believe they have to hide their giftedness because they are made to feel ashamed of it. As the self forms, in part in reaction to those we value, the reaction of peers, parents, and community members who

do not value high achievement can be especially stressful for rural gifted children who are well-known in their small communities. The process of trying to form a valued self in isolation and in opposition to prevailing norms can be particularly difficult for children whose characteristics and behaviors deviate to a significant degree from the norms of the communities where they are growing up.

In one extensive report focusing on the emotional well-being of rural gifted children, Schuler (1999) showed that a characteristic of giftedness, perfectionism, runs the continuum from healthy to dysfunctional, and that the support of teachers, parents, peers, and members of the community is critical to helping gifted children maintain healthy perfectionism. Using Dabrowski's framework and qualitative and quantitative methods to collect data about 20 gifted adolescents in a rural middle school, Schuler confirmed that perfectionism is an important trait shared by many gifted students. Whereas perfectionism can help such children create high-quality work, it also can become so intrusive that it constrains achievement and creativity. Healthy perfectionists accept their mistakes, recognize the value of trying their best, and appreciate high parental expectations for their success. By contrast, unhealthy perfectionists are always anxious about making mistakes, feel others have excessively high expectations for them, and work to gain approval rather than for their own satisfaction. According to Schuler, parents, teachers, and peers play an important role in determining whether gifted children will develop healthy or unhealthy perfectionism.

Hall and Kelly (1995) reported two studies that demonstrated the importance of appropriate counseling for rural gifted students. In the first study, gifted students[5] from two rural junior high schools in Indiana were matched with students of average achievement. Students' responses to the Career Decision Scale suggested that high achievers saw fewer barriers to their pursuits of career goals than did average achievers. The authors claimed that this finding coincided with popular understandings about the needs of high achievers. Further analysis, however, revealed two unanticipated findings: First, "gifted boys may require more support and involvement from educators, counselors, and parents in career decision making than they have been receiving," and, second, "high-achievement boys were higher in overall career indecision than high-achievement and average-achievement girls"

(Hall & Kelly, 1995, p. 296). These findings may not be surprising given the excessive caseloads of guidance counselors and the recently identified problems that boys seem to be encountering in school. But they do substantiate the important conclusion that high-achieving boys "need more career education, counseling, and support than they currently receive" (Hall & Kelly, 1995, p. 296).

Again using the Career Decision Scale, the second study (Hall & Kelly, 1995) compared the responses of 14 rural gifted students with the responses of 25 urban students whose composite scores on a recently administered standardized achievement test were above the 95th percentile. The researchers were interested in the effects of sex and residence on career decisions, but they found no differences between the groups from the two locales in terms of their self-reported need for support or level of career indecision. They did find that urban girls identified more barriers to careers than did other respondents. Results across the two studies are contradictory, although both studies do suggest that gifted students need better support.

Recognizing the connection between students' perceptions of the academic challenges of middle school and their behavior, Gentry, Rizza, and Gable (2001) used My Class Activities[6] to assess rural students' perceptions of their classes. According to these researchers, many students in middle schools, facing approaching adolescence as well as financial realities, begin to lose their motivation for academic work. As a result, their behavior may deteriorate. The authors suggested that school consolidation without increased funding and the inevitable attenuation of ties between community and school have had a negative impact on rural schools, ultimately limiting the benefits that rural schools can provide to gifted students.

The researchers (Gentry et al., 2001) drew a sample from a large database of diverse students from 24 schools in seven states equally distributed among rural, urban, and suburban areas. The urban category was dropped from the study, however, because return rates were significantly lower for that group. Data analysis revealed that rural gifted students reported that they had "fewer opportunities for challenge than their suburban peers, and, unlike the rural elementary gifted students, they reported a lower frequency of enjoyment than did the suburban students" (Gentry et al., 2001, p. 123). This is not a surprising conclusion given evidence in these reports showing

that gifted students are bored in school. But the findings reinforce insights from research in this review showing that gifted children are vulnerable to disengaging from school and need much more support than they receive presently (Battle & Grant, 1995).

Three additional reports stem from the same ongoing longitudinal research project that is creating a bank of data collected through case studies of gifted rural girls in southern Georgia. The research investigates influences on gifted rural girls in their development of aspirations for college and careers. The first of these studies (Battle & Grant, 1995) focused on three young women who were outspoken, intelligent, and saw themselves as independent thinkers. They achieved this positive self-image with the help of their families and through participation in activities in school as well as extracurricular interests. Furthermore, the girls viewed themselves as liberated from the traditional rural roles for women, but the researchers nevertheless concluded that the girls would benefit from exposure to broader educational and career options, more opportunities for problem solving, and work in math and science. Having supportive families was very important to the girls' success—a finding confirming the researchers' conclusion that parental support for gifted children must continue to be nurtured.

Another part of this longitudinal work (Grant, Heggoy, & Battle, 1995) sought to "determine perceptions of gifted college females regarding influence of rural socialization on career aspirations" (p. 2) through questionnaires and follow-up interviews with seven young women who had, on average, been in gifted and Advanced Placement classes for 6 years. All of them planned to work after college, but it was clear that they also hoped to marry and have children. Balancing these sometimes competing goals caused several to plan less challenging careers. Grant and associates concluded that socialization to sex roles did act as a barrier to aspirations. They suggested that, starting no later than the sixth grade, career counselors should help gifted rural females think about these issues.

In a third study associated with this research initiative, Grant, Battle, Murphy, and Heggoy (1999) looked at the experiences of nine African American women who had attended college after graduating from the largest high school in rural southeastern Georgia. Using participant questionnaires, structured interviews, as well as quantita-

tive data from intelligence and self-perception tests and transcripts, the researchers discovered that the girls had developed confidence in their own abilities and that demonstrating academic achievement and "disproving incompetence" (in other words, proving that they were not "dumb") were important sources of motivation. Based on the women's reports, it appeared that teachers and other students had attempted to block their path to becoming honors graduates, but the women had persisted nonetheless. They formed a peer group and came to believe that they could succeed academically and graduate with honors—a rare circumstance for African American females in this predominantly White high school. Although their race and gender intensified the challenges, these girls were able to reach their goals because they wanted their families to be proud of them and hoped to serve as role models for other African American students.

The story of these women's route to success points to the importance of giving gifted students time to associate with academic peers for mutual support. The researchers (Grant et al., 1999) also showed that it was important for these girls to create a "raceless" persona, one that allowed them to succeed by "separating the attitudes and behaviors necessary for academic success from those associated with a loss of identity within the African-American community" (Grant et al., 1999, p. 114).

Identifying Gifted Rural Students

Several studies address issues related to the identification of gifted students in rural schools. Often such studies focus on problems associated with the search and selection process. For example, based on a study of rural students in West Virginia, Fishkin and Kampsnider (1996) pointed out that the 1991 revision of the Wechsler Intelligence Test for Children errs in identifying gifted students through "overemphasis on speeded performance . . . [which] may preclude identification of some children who are abstract reflective thinkers but are not as highly able in speed of their visual motor ability" (p. 7). The researchers argue that this widely used test of ability rewards the "*speed* with which . . . children organize perceptual materials," (Fishkin & Kampsnider, 1996, p. 7), which is not a true measure of intellectual potential. The authors suggest that because of this bias in

the Wechsler scales rural districts (as well as those in urban and suburban places) might be well advised to accept into gifted programs some students whose scores might not reach the levels specified by state eligibility criteria.

In a descriptive statistical analysis of gifted students who were receiving free and reduced cost lunch in three Kentucky middle schools, Abell and Lennex (1999) revealed problems facing many poor rural gifted children, including the fact that they are not always identified as gifted. According to Abell and Lennex, poor gifted children come to school developmentally delayed in comparison to their more affluent peers: "Every year students begin school who have never seen an elevator, never eaten in a restaurant (even McDonald's), and never been to a library or zoo. These students come to school ready and eager to learn but behind their peers in life experiences" (p. 3). Noting the prevalent finding that economically disadvantaged children are less likely to be in programs for the gifted than children from more affluent families, Abell and Lennex recommended training teachers to recognize giftedness in poor children. Davalos and Griffin (1999) also raise this issue in their study of the Mustard Seed Project, which is considered later.

Abell and Lennex (1999) recommended that actual work and performance rather than scores on standardized tests be used as indicators of the abilities of poor children and cited other researchers who recommended the use of portfolios, projects, and other student work as the basis for identifying gifted children. In addition, they explained that surveys and interviews with parents can point to a child's giftedness but caution that the parents of poor children are often poorly educated and, as a result, sometimes less able than other parents to navigate the educational system and advocate for their children.

Furthermore, according to Abell and Lennex (1999), few classroom teachers in primary schools have had any training in the identification of gifted children, which leads most to rely on their own values. In their review of the literature on the gifted generally, Abell and Lennex reported that teachers untrained in identifying the gifted "most often identify 'teacher-pleasers' as students capable of and needing their encouragement and instruction to excel" (p. 11). As a result, many of those who are identified as "gifted" children are

actually "bright average children from educationally enriched backgrounds. . . . They are not truly gifted, and students who do not meet this stereotype are often overlooked" (Abell & Lennex, 1999, p. 12). Hébert and Beardsley (2001) offered insight into the life of a poor child in rural Alabama in "Jermaine: A Critical Case Study of a Gifted Black Child Living in Rural Poverty." The study was grounded in critical theory and aimed to "make these unconscious belief systems explicit," (Hébert & Beardsley, 2001, p. 87). To address this aim, the researchers examined environmental factors to understand how they affected one gifted rural child living in poverty. They justified their decision to focus on one case by the frequently cited rationale, "if it can happen here, it can happen anywhere" (Hébert & Beardsley, 2001, p. 87; see, e.g., Patton, 1990). The methodology of the study was also unusual because Beardsley, who became a coauthor, had been Hébert's student and Jermaine's teacher. She served as gatekeeper and informant, while Hébert conducted ethnographic fieldwork, including participant observations, interviews, and analysis of the culture of the agricultural community near Selma.

According to this study, Jermaine attended a three-room school with limited amenities. The school lacked facilities such as a library and media center, an art or music room, and a gym; and the grounds around the school quickly turned to red mud in a slight rainstorm. Although the Alabama legislature had passed a law mandating the identification of and programming for gifted students in 1997, Milledge County, where the school was located, had not complied. Even in this environment, Jermaine scored between the 86th and 99th percentile on the only standardized tests used in the system, the Stanford Achievement Test. Vocabulary and language expression were his areas of highest achievement, which seemed remarkable considering that these subtests favor the knowledge of children from more affluent families.

Within his family, Jermaine was seen as lively, loving, self-confident, respectful, and humorous, but his family was marginalized in their community. They did not go to church, and Jermaine was described to the researcher as "a no-count bad child" (Hébert & Beardsley, 2001, p. 92). In fact, in his first few years at school, he was seen as a troublemaker. Jermaine's principal also referred to him as "that bad little boy I have to keep an eye on" (Hébert & Beardsley,

2001, p. 93), and another teacher proclaimed he was "too bad to handle" (Hébert & Beardsley, 2001, p. 93).

When he entered third grade, however, Jermaine had Beardsley for a teacher. She recognized that his energy and daydreaming were signs of giftedness, not intractability. She became Jermaine's advocate and mentor and brought him to the attention of her professor, Dr. Hébert, who offered other opportunities. Their report of their work to help Jermaine demonstrates that one teacher can make a difference. As a result of their experience with Jermaine, the authors concluded that training teachers to identify poor gifted children continues to be a critical need (Hébert & Beardsley, 2001).

In their 1995 publication, Heggoy, Battle, and Grant reported on ongoing research at that time (i.e., Battle & Grant, 1995; Grant et al., 1995; Grant et al., 1999) with seven gifted African American and European American female college freshmen who had graduated from public high schools in rural Georgia. Like Hébert and Beardsley (2001), Heggoy and associates found that adult mentors had played an influential role in supporting these students. Unlike Jermaine's mentor, who had been his teacher, the mentors of these young women were people from their community. The young women also reported that being identified as gifted while they were in elementary school had been crucial to their formation of a positive self-image and to their success in school. For this reason, they thought elementary and middle school programming for the gifted ought to be increased.

The young women claimed that stand-alone elementary programs offered the greatest opportunity for problem solving, creativity, originality, and increased depth and content. They said secondary-level programs offered little differentiation and were rarely challenging or interesting. The girls discounted the influence of high school programs on their own intellectual development; they also discounted the role of high school guidance counselors, with whom they reported having little contact.

Findings from this study led Heggoy et al. (1995) to conclude that early identification of gifted girls is essential in rural communities, especially those where prevailing norms reinforce the view that women should be family oriented, marry early, stay married, have many children, and otherwise fit in with traditional gender roles (Kleinsasser, cited in Heggoy et al., 1995, p. 8). To counter this nar-

row construction of women's roles, Heggoy and her colleagues saw value in early interventions that could provide girls with a wider set of alternatives and role models. According to Heggoy and associates,

> gifted female students from rural backgrounds would benefit from: support of their interest in non-traditional subjects and non-traditional careers in addition to the more traditional choices, exposure to options using the strengths they perceive that they have and allowing them to interact with others in a variety of settings, and encouraging them to reach out to experiences that expand their perceptions of the world. (p. 23)

In another study about the effects of others' expectations on the development of self-concept, Bretz, Kher, and Lacina-Gifford (2000) examined tensions resulting from the different expectations of gifted females held by rural teachers, peers, and parents. According to these researchers, junior high school is a critical time for all adolescents, and gifted females are particularly vulnerable as they try to achieve a positive self-concept in the face of messages that encourage them to suppress their emerging independence and competitiveness and to downplay their academic success. Bretz and her colleagues claimed that "gifted girls were found not to be as socially accepted as their non-gifted peers" (p. 32)—a finding that seemed to point to the conflicts such girls may be facing. Furthermore, as the researchers note, rural girls are socialized differently from boys perhaps from birth. They are socialized to accept "relational values such as intimacy and empathy" (Bretz et al., 2000, p. 32) and to fulfill the expectation of maintaining home and hearth (Bretz et al., 2000, p. 32). In addition, parents and teachers often attribute the success of gifted girls to luck and hard work, while attributing boys' success to special abilities.

To find out more about such dynamics, Bretz et al. (2000) used a questionnaire eliciting information about the expectations that rural teachers and average-ability peers held for gifted females. The data indicated that teachers had

> . . . significantly higher expectations for gifted females in the areas of leadership, flexibility, and curiosity than peers. Whereas the adult expectations focused on performance, the

> peer sample had a higher regard for a characteristic allowing one to fit in with a group. (p. 35)

Although not surprising, these differences reveal the conflicting messages to which gifted adolescent girls often must respond. The potential of such messages to undermine the confidence of gifted girls supported the authors' (Bretz et al., 2000) views about the need for early identification and intervention. According to the researchers, rural gifted girls may learn during early childhood to disguise their abilities in order to appear acceptable to their peers. If their efforts succeed, their giftedness may remain undetected.

Not only are girls often overlooked in efforts to identify gifted students in rural schools, so too are students from underrepresented groups. Examining data from West Virginia, Russell and Meikamp (1995) found that while 2% of West Virginia's students had been identified as gifted, only 37 of the state's 12,503 Black students (or .67%) had been so identified. These authors attribute the gap in part to the fact that so few of the state's school psychologists and teachers of the gifted were Black. Russell and Meikamp also pointed out that programs for disadvantaged and minority children typically focus on social and environmental problems they face rather than on "empowering them to develop their strengths" (p. 171). They concluded that efforts to identify rural gifted students from underrepresented groups might be improved by using information from parents, teachers, and community members as part of the assessment process. Overreliance on intelligence tests, which are likely to embed cultural biases, does not seem wise from the perspective of these authors.

Another impediment to the identification of gifted students from minority groups is the tendency of schools to track minority students—even those who are gifted—into low-level courses (Alford, 1997). To reverse this trend, Alford recommended that schools open up accelerated courses to all students who demonstrate ability in a wide range of areas as well as to those who demonstrate motivation and interest.

Another approach, supported by a study in rural Minnesota, is to give parents a more central role in the identification process. According to Delaney, Lange, and Ysseldyke (1995), the open enrollment program in Minnesota enables rural parents to seek better edu-

cational opportunities for their children. Based on this insight, the researchers administered a questionnaire to 82 rural parents of both special needs and gifted children who had used the open enrollment program to transfer their children to schools outside the home attendance area. Although the researchers did not disaggregate the data by exceptionality, they did find that 61% of the parents were dissatisfied with services in their local schools and had transferred their children to other schools in order to give them access to better educational programs. Forty-nine percent had children in the elementary grades—a finding suggesting that many parents of young gifted children are aware of their children's abilities and therefore can be reliable sources of information about their children's special needs.

Some of the studies that focus on identifying gifted rural students offer strategies and tools for improving the process. Abell (2000) used a model developed by Aamidor and Spicker (1995) to identify characteristics of disadvantaged rural gifted children. Funded by a grant from the Javits gifted and talented program, she worked with 21 regular class teachers from three middle schools in Kentucky and conducted a survey at the end of the training. The results indicated that about one third of the participants felt they had been significantly influenced by the training. Unfortunately, the way in which the questions were posed could be construed as inviting ambiguity; however, the report shows that staff development can help teachers look for and identify gifted rural children from poor and minority families.

Based on their work with Project ARTS, Clark and Zimmerman (2001) offered another model for identifying gifted students. Like other authors whose work is reported here, these researchers argue that criteria for identifying gifted rural children need to be expansive and inclusive. According to the authors, children in rural schools often have very limited opportunities in the arts because there are few trained arts teachers in such schools. Project ARTS, funded by a Javits grant, offered one approach to increasing identification of and programming for rural students with artistic talents. This 3-year research and development project was designed to identify

> underserved, high-ability, visual and performing arts students in Grade Three in selected rural schools in New Mexico, Indiana, and South Carolina and to improve and assess dif-

> ferentiated visual and performing arts programs appropriate to these students during the succeeding two years. (Clark & Zimmerman, 2001, p. 105)

Based on what they had learned in preliminary work, Project ARTS staff held meetings with local advisory groups comprised of teachers, parents, and artists at each site. These groups developed methods to identify gifted students, and a total of 1,000 third-grade students in seven rural schools were tested using these methods. Although local identification procedures were used to select students for the program, Project ARTS did require that each school administer two standardized instruments, a modified version of the Torrance Tests of Creativity and Clark's Drawing Abilities Test, but these were used for research purposes only.

Local evaluation methods identified by the advisory groups included (a) nominations by students, parents, teachers, local artists, and peers; (b) portfolios and sketchbooks; (c) projects and work samples; (d) questionnaires; (e) previous grades in art; (f) observation of students; (g) achievement test scores; and (h) written research proposals. This rich variation suggests useful strategies for identifying gifted rural children in the local context by providing a depth and range of possible performances that enable students to demonstrate their abilities.

An important finding from Clark and Zimmerman's (2001) work on this project is that

> . . . students with high creativity scores and drawing ability scores also obtained substantially higher scores on language, mathematics, and reading tests in each of the three states. The consistency of results across all three states confirms that populations of high-achieving students in the visual arts also are high-achieving students in general. (p. 110)

This finding suggests an interesting possibility: Perhaps one way to identify gifted children in rural schools is through their artistic work. It further suggests that teaching children music, art, drama, and dance may be more critical to their development than many rural educators acknowledge.[7]

Focusing on science talent, Gentry and Ferriss (1999) offered another way to identify gifted rural students. Each spring students in three rural districts in southern Michigan were invited to apply for a program conducted throughout the school year for students who showed ability and interest in science. This program, Studies for Academically Talented Students (StATS), first invited students and their parents to attend a meeting explaining the program and application process. Students applied to the program in writing, and a team of adults, including StATS instructors and local district representatives, interviewed those whose applications achieved high ratings. The team selected 26 students, half of whom were invited to attend the program in the next academic year and half of whom were put on a waiting list for the following year. Although this process was time-intensive and multifaceted, Gentry and Ferriss found that it effectively identified talented rural students.

Options for Educating Rural Gifted Students

Literature about ways to differentiate instruction for gifted learners suggests that rural schools confront some special challenges but also offer some unusual opportunities (A. Howley, C. Howley, & Pendarvis, 2003). Because rural schools are often small, for example, educators in such schools are better able than educators in larger schools to learn about the talents of their students. Nevertheless, in rural communities that have strongly egalitarian values, educators may be reluctant to single out students whose intellectual talents distinguish them from their classmates (A. Howley et al., 2003). Accelerated coursework at the high school level is also hard to provide in some rural communities. Offering advanced classes in mathematics, science, and foreign languages can be particularly difficult, in part because rural districts are less able than others to attract teachers with specialized preparation (e.g., Jimerson, 2003). Furthermore, teachers with licensure in fields where demand exceeds supply (e.g., mathematics and science) often leave rural communities in order to accept positions in higher paying districts (Jimerson, 2003; McClure & Reeves, 2004). Furthermore, rural high schools are less likely than those in cities and suburbs to offer Advanced Placement (AP) courses (Snyder, Tan, & Hoffman, 2006). Despite these challenges,

rural schools often provide programs for gifted children and youth. The available literature reports information about some of these programs in the United States as well as in other countries.[8]

StATS. Gentry and Ferriss (1999) discussed a program involving seventh and eighth graders from three schools who met for advanced work in science with instructors at the area vocational center for 17 half days throughout the school year. This collaborative venture gave students with similar abilities and interests time to work together—an opportunity that is vital for gifted students, especially those in rural schools where there are few opportunities to work with intellectual peers. According to Gentry and Ferriss, the StATS program was based on the theoretical insights of Vygotsky who believed that "the only good instruction is that which proceeds slightly ahead of the learning development of the child" (p. 2). Through StATS, students were offered the chance to work with local professionals on projects relating to water quality and wetland restoration, and they were also provided mentorships supporting independent study in the following year.

Extracurricular Opportunities and Special Programs. Extracurricular activities help keep students actively engaged in academic work, and providing challenging extracurricular programs to gifted students might be one way to support high-level work. But do such students lack opportunities to become engaged in challenging out-of-school experiences? MacIntire and Plucker (1996) question the prevailing assumption that rural students have less exposure to cultural opportunities and resources than their counterparts in other locales. These researchers conducted two studies to examine opportunities for rural gifted students in curricular, extracurricular, and "co-curricular" activities. In the first study of 235 middle-level gifted students in eight states, the researchers asked students to report the frequency with which they attended cultural events, including athletic events, as participants and spectators. They found that rural gifted students actually attended more musical and athletic events than their suburban peers. Although the researchers acknowledged that the quality of those programs might differ, they reported that differences in the number of opportunities appeared to be negligible, although athletic events tended to pre-

dominate in rural schools. Lumping athletic with other cultural events, however, does confound these findings.

In the second study, MacIntire and Plucker (1996) used results from 210 middle schools in rural and suburban locales in Maine to compare the level of resources available to gifted students in schools with special programs for them versus those that lacked such programs. The researchers found little difference between opportunities for gifted students in rural and suburban schools but significant differences in the opportunities for gifted students between rural schools that had or did not have programs for the gifted. The results suggested that "gifted students who do not have access to a within-school gifted program are also less likely to have access to other means of independent academic stimulation (e.g., libraries, and computers) and to athletic and co-curricular activities," (MacIntire & Plucker, 1996, p. 33). Because these resources require considerable funding, the researchers concluded that financial constraints were the primary reason for the lack of such provisions.

Involving Parents and Peers. Jacobs, Finken, Griffin, and Wright (1998) also focused on the benefits of extracurricular activities for gifted students. In their article, they stressed the importance of parents' and peers' opinions to gifted girls as well as the vulnerability of these girls to social pressures. Pointing out that involvement in extracurricular activities has been positively connected to academic success as well as the high participation rates of rural students, the researchers asked if involvement in extracurricular activities would be positively associated with the choice of a career goal in science among rural adolescent girls.

The researchers surveyed 220 girls in grades 9–12 who had been nominated for and applied to a National Science Foundation funded program for girls talented in science. The response rate (70% from girls in communities of 1,000 or less, 30% from girls in communities from 1,000 to 5,000, and 20% from communities over 5,000) suggested to the researchers that there might be significant differences between rural communities of varying sizes.

Several interesting findings from the study suggest the need for further work. One is a significant "negative relationship between grade in school and interest in a science career in this group of sci-

ence-talented girls" (Jacobs et al., 1998, p. 699). This finding points to gifted adolescent girls' vulnerability to prevailing social pressures in rural schools. There was also evidence that mothers who saw their daughters' interest and ability in science as positive had some limited influence over the daughters' decisions to pursue science- or health-related careers. Citing work by Kleinsasser, Jacobs and associates wrote, "mothers' gender-role attitudes may be particularly important in a rural setting in which definitions of appropriate roles for women may be narrower and fewer nontraditional role models may be available" (p. 698). The researchers concluded that programs in rural areas that reach out to parents and peers may be effective in supporting the career decision making of gifted girls.

Magnet Schools. Plucker et al. (1996) examined another model for supporting the needs of rural students with special talents. When Loring Air Force Base in northern Maine was slated to close, the community enlisted planners to help prepare for the expected loss of population and jobs.[9] Creating a magnet school in science and math for capable students throughout Maine and perhaps from other states became part of the plan to revitalize the area and use the facilities abandoned by the Air Force. The researchers were interested in the influence of magnet-school attendance on the aspirations of students. They administered the Grade 6-12 Aspirations survey to students in the magnet school and compared the results of 97 usable forms with archived data from students of general ability. Although the researchers noted that there were factors compromising the validity of the results, they concluded that the very able students attending the magnet school

> . . . have high aspirations, and that these aspirations are higher than those of students in a general ability sample. In addition, magnet school students appear to perceive a school climate that is supportive and fosters both achievement and aspirations to a greater extent than students in a general ability sample attending traditional high schools. (Plucker et al., 1996, p. 6)

Teaching Teachers to Teach Gifted Rural Students

Teachers play a critical role in helping gifted children understand and appreciate their gifts. Biased teachers can thwart the ambitions of motivated and gifted children, as was evident in Battle and Grant's (1995) study of gifted young Black girls in southern Georgia. Teachers can misidentify children who in Dabrowski's terminology are "overexcitable" as having ADHD when really they are gifted youth with high levels of energy, ambition, and independence. But teachers like those identified by students from Wyoming (Cross & Stewart, 1995) as critical to their success and like Teresa Beardsley (Hébert & Beardsley, 2001), teachers who appreciate and nurture the gifts of bright rural students, play a vital role in their lives. According to many who advocate for gifted children, rural teachers need to learn how to offer differentiated instruction to students across a wide range of abilities, skills, and interests. Three articles offer specific suggestions.

Based on their work in rural Oklahoma with 5 general education teachers, 2 administrators, and 10 teachers of gifted students, Ehlers and Montgomery (1999) found that too many rural teachers end up "teaching to the middle"—an approach that does not serve gifted children well. By differentiating instruction, however, teachers can provide a more appropriate curriculum, according to these authors. Ehlers and Montgomery concurred that appropriate curriculum for gifted students differs substantially from the general education curriculum "in content, process, product, and learning environment" (p. 96); it needs to be "more complex, more abstract, and more varied" (p. 96).

These insights as well as perspectives on specific features of an appropriate curriculum come from the researchers' study (Ehlers & Montgomery, 1999) of teachers' perceptions of the education of gifted and talented students. The researchers asked 17 respondents to evaluate a large set of practices thought to have salience for gifted and talented students. They used Q methodology to analyze data because this approach provides a way to describe "subjective opinions about behaviors and compare the relative strengths of those behaviors according to the beliefs of any individual" (Ehlers & Montgomery, 1999, p. 97). The study reveals variation in the ways teachers and administrators think about teaching gifted and talented children, with many seeing the need to differentiate the

curriculum but others believing it best to allow these children to complete the general curriculum.

Davalos and Griffin (1999) described the Mustard Seed Project—a project that offered many ideas for teaching gifted and talented rural children. The project modeled individualized teaching in sites that were "rural, ethnically diverse and economically disadvantaged" (Davalos & Griffin, 1999, p. 1). To understand the impact of individualized teaching on gifted students in these diverse rural classrooms, the authors developed profiles of six gifted students through interviews and more than 150 hours of observation while teachers were "being trained to individualize instruction in the areas of content, rate, preference, and environment" (Davalos & Griffin, 1999, p. 2).

Findings from the study reveal that teachers' modifications for gifted students were often small, but even minor modifications seemed to benefit them. Some teachers, for example, rearranged their rooms to facilitate student interaction, an adjustment that offered gifted children more opportunities for individualized instruction and socialization, which they appreciated. Some teachers found it difficult to cede any control and imposed choices on children but allowed children who finished assigned tasks early to use computers. Again, even this minor adjustment gave gifted students a chance to do something more interesting than just wait. Some teachers, however, worked as coaches and facilitators to encourage gifted children to explore interests and develop challenging research projects that required in-depth thinking.

Like Cross and Stewart (1995), Davalos and Griffin (1999) explored the impact of the rural environment on gifted and talented students and their teachers. They identified strengths of rural schools, including supportive family atmospheres; generally good teacher-to-student ratios; smaller teaching staffs; conditions favoring the adoption of effective practices; and the value placed on sports, extracurricular activities, peers, and family. All of the children involved in this study appreciated these characteristics of their schools as well as the opportunities for challenging academic work provided by the project.

Despite these strengths of rural schools, the teachers involved with the project had a difficult time shifting their paradigms for "good

teaching." They were reluctant to give up control over the instructional process and rarely provided conditions supporting gifted students in efforts to become independent learners. The researchers concluded that the Mustard Seed Project had not been sufficiently intensive to allow most teachers to make this shift. They speculated that the only way to make the shift possible would be through a program that provided teachers with even more intensive exposure to individualized teaching methods with the support and supervision of highly skilled facilitators.

Conclusion

The studies reported in this review teach us a lot about gifted rural children and the importance of identifying them early, educating them well, and creating opportunities for them to live and work near their communities. This body of literature shows clearly that gifted rural children face difficulties, but the strengths of rural communities can help them in ways that are not usually available to children in urban and suburban communities. Work to support gifted children, moreover, seems critical to the sustainability of rural communities.

This review of the literature is rich in diversity of perspective and breadth of its range, but it is also fragmentary. It is a good beginning, but the review represents a plea for further investigation. For example, Cross and Stewart's (1995) study of the "life-world" of students in Wyoming might offer different perspectives if conducted with students in poor minority communities. What would we learn from studying a Mustard Seed Project (Davalos & Griffin, 1999) with teachers in varied rural communities? These studies and so many others—the longitudinal work being done in Georgia with gifted adolescent and college-age girls or case studies of children like Jermaine (Battle & Grant, 1995; Hébert & Beardsley, 2001)—beg for replication. Only by comparing results from studies based on similar research methodology and questions can we broaden and deepen the generalizability of outcomes. Only through replication and study over time can research declare with any authority what works and what does not for gifted students in rural places.

At the same time, the literature review reveals a host of issues that have not yet been addressed at all. For example, there are no case studies of rural gifted students who have remained in their home communities throughout adulthood, nor are there studies about the experiences of others who have left their communities and not returned. The effect on gifted students of rural school closures and consolidations is unknown, and only a few studies touch on the impact of widespread policy changes offering support for distance learning, early college entry, home study, Advanced Placement courses, and charter schools. Moreover, little extant research examines the circumstances confronting special populations of gifted students in rural schools (e.g., those from underrepresented groups, those with disabilities or limited English proficiency) or the effects of programs intended to provide them with appropriate educational opportunities.

Clearly, the fragmentary nature of the existing literature and the inconclusiveness of its findings suggest a pressing need. Universities that prepare teachers of the gifted have a stake in advancing the knowledge base about rural children and youth with special gifts and talents. Reliable information about these students and the supports and constraints provided by their schools and communities will contribute to the establishment of more responsive policies as well as the development of more defensible practices for identifying such students and serving them in the public schools of their local rural communities.

References

Aamidor, S., & Spicker, H. H. (1995). Promise for the future: Gifted education in rural communities. *Rural Special Education Quarterly, 14*(2), 39–46.

Abell, D. (2000, November). *Differentiation of instruction for disadvantaged gifted students: A systemic change model*. Paper presented at the annual meeting of the Mid-South Educational Research Association, Bowling Green, KY.

Abell, D. J., & Lennex, L. (1999, November). *Gifted education: Don't overlook the disadvantaged*. Paper presented at the annual meet-

ing of the Mid-South Educational Research Association, Point Clear, AL.

Alford, B. (1997, September). *Leadership for increasing the participation and success of students in high school advanced courses: Implications for rural educational settings*. Paper presented at the Annual National Rural Education Association Convention, Tucson, AZ.

Battle, D. A., & Grant, D. F. (1995). Decision making of rural gifted females: Case studies of precollege influences. *Roeper Review, 18,* 33–39.

Benge, B., & Montgomery, D. (1996). *Understanding the emotional development of twice exceptional rural studies*. (ERIC Document Reproduction Service No. ED394784)

Bretz, D., Kher, N., & Lacina-Gifford, L. (2000). A comparison of attitudes and expectations of teachers and peers towards rural gifted female adolescents. *Research in the School, 7*(1), 31–36.

Burke, E. (1982). *Reflections on the revolution in France*. Hammondsworth, UK: Penguin Classics. (Original work published 1790)

Clark, G., & Zimmerman, E. (2001). Identifying artistically talented students in four rural communities in the United States. *Gifted Child Quarterly*, *45,* 104–115.

Colangelo, N., Assouline, S. G., & New, J. K. (1999). *Gifted education in rural schools: A national assessment.* Iowa City: The University of Iowa, The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development. (ERIC Document Reproduction Service No. ED430766)

Cross, T., & Stewart, R. (1995). A phenomenological investigation of the 'Lebenswelt' of gifted students in rural high schools. *Journal of Secondary Gifted Education, 6,* 273–280.

Davalos, R., & Griffin, G. (1999). The impact of teachers' individualized practices on gifted students in rural, heterogeneous classrooms. *Roeper Review, 21,* 308–314.

Delaney, T. J., Lange, C. M., & Ysseldyke, J. E. (1995). Participation of rural students with disabilities and rural gifted students in open enrollment. *Rural Special Education Quarterly, 14*(3), 31–35.

Ehlers, K., & Montgomery, D. (1999). Teachers' perceptions of curriculum modification for students who are gifted. In D. Montgomery (Ed.), *Rural special education for the new millennium, conference proceedings of the American Council on Rural Special Education* (ACRES; pp. 95–106). Albuquerque: University of New Mexico, American Council on Rural Special Education.

Fishkin, A. S., & Kampsnider, J. J. (1996). *Subtest scatter patterns for rural superior and high-ability children*. (ERIC Document Reproduction Service No. ED394783)

Gentry, M., & Ferriss, S. (1999). A model of collaboration to develop science talent among rural students. *Roeper Review*, *21,* 316–320.

Gentry, M., Rizza, M. G., & Gable, R. K. (2001). Gifted students' perceptions of their class activities: Differences among rural, urban, and southern student attitudes. *Gifted Child Quarterly, 45,* 115–129.

Gjetlen, T. (1982). *A typology of rural school settings*. Washington, DC: U.S. Department of Education. (ERIC Document Reproduction Service No. ED215858)

Grant, D. F., Heggoy, S., & Battle, D. (1995, July). *Cases of rural gifted college females' socialization barriers and career choices*. Paper presented at the National Career Development Association Conference, San Francisco, CA.

Grant, D. F., Battle, D., Murphy, S., & Heggoy, S. (1999). Black female secondary honor graduates: Influences on achievement motivation. *Journal of Secondary Gifted Education, 10,* 103–117.

Hall, A. S., & Kelly, K. R. (1995). Effects of academic achievement, sex, and community of residence on four types of career indecision. *Journal of Secondary Gifted Education, 7,* 293–302.

Hébert, T. P., & Beardsley, T. M. (2001). Jermaine: A critical case study of a gifted Black child living in rural poverty. *Gifted Child Quarterly*, *45,* 85–103.

Heggoy, S. J., Battle, D., & Grant, D. (1995, April). *Rural gifted adolescent females: Perceptions of curriculum at elementary and secondary levels.* Paper presented at the annual meeting of the national convention of the Council for Exceptional Children, Indianapolis, IN.

Howley, A., Howley, C., & Pendarvis, E. (2003). The possible good gifted programs in rural schools and communities might do. In J. Borland (Ed.), *Rethinking gifted education: Contemporary approaches to understanding giftedness* (pp. 80–104). New York: Teachers College Press.

Howley, C. B. (1998). *Distortions of rural student achievement in the era of globalization*. Charleston, WV: Appalachia Educational Laboratory.

Howley, C., Harmon, H., & Leopold, G. (1997). *Rural scholars or bright rednecks? Aspirations for a sense of place among rural youth in Appalachia.* Charleston, WV: Appalachia Educational Lab.

Jacobs, J. E., Finken, L. L., Griffin, N. L., & Wright, J. D. (1998). The career plans of science talented rural adolescents. *American Educational Research Journal*, *35,* 681–704.

Jimerson, L. (2003). *The competitive disadvantage: Teacher compensation in rural America* (Policy Brief). Washington, DC: Rural School and Community Trust.

Lawrence, B. K. (1998). *Working memory: The influence of culture on aspirations.* Unpublished doctoral dissertation, Boston University.

Lawrence, B. K. (2004). *The hermit crab solution: Creative alternatives for improving rural school facilities and keeping them close to home*. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.

Lawrence, B. K., Abramson, P., Bergsagel, V., Bingler, S., Diamond, B., Greene, T. J., et al. (2005), *Dollars and sense II: Lessons from good, cost-effective small schools.* Cincinnati, OH: KnowledgeWorks Foundation.

MacIntire, J. A., & Plucker, J. A. (1996). Availability of extracurricular and cultural opportunities for rural middle level gifted students. *Rural Special Education Quarterly, 15*(4), 28–35.

McClure, C., & Reeves, C. (2004). *Rural teacher recruitment and retention review of the research and practice literature*. Charleston, WV: Appalachia Educational Laboratory.

Patton, M. (1990). *Qualitative research and evaluation methods* (3rd ed.). Newbury Park, CA: Sage.

Plucker, J., Cobb, C., & Quaglia, R. (1996, October). *Aspirations of students attending a science and mathematics residential magnet*

school. Paper presented at the annual meeting of the National Rural Education Association, San Antonio, TX.

Russell, S., & Meikamp, J. (1995). Cultural diversity among gifted students and their teachers in rural West Virginia. In D. Montgomery (Ed.), *Rural special education for the new millennium, conference proceedings of the American Council on Rural Special Education* (ACRES; pp. 171–177). Albuquerque: University of New Mexico, American Council on Rural Special Education.

Schuler, P. A. (1999). *Voices of perfectionism: Perfectionist gifted adolescents in a rural middle school.* Storrs: University of Connecticut, National Research Center on the Gifted and Talented. (ERIC Document Reproduction Service No. ED430352)

Snyder, T., Tan, A., & Hoffman, C. (2006). *Digest of education statistics, 2005.* Washington, DC: National Center for Education Statistics.

University of Kansas. (1995, September). *The emotional price of excellence: Abstracts of selected papers [from] the Annual Esther Katz Rosen Symposium on the Psychological Development of Gifted Children*. Lawrence, KS: Author. (ERIC Document Reproduction Service No. ED386906)

U.S. Census Bureau. (2009). *Question and answer center. Definition: Urban and rural*. Retrieved March 31, 2009, from https://ask.census.gov/cgi-bin/askcensus.cfg/php/enduser/std_adp.php?p_faqid=623&p_created=1092150238&p_sid=v5ZfVMtj&p_accessibility=&p_lva=&p_sp=cF9zcmNoPSZwX3NvcnRfYnk9JnBfZ3JpZHNvcnQ9JnBfcm93X2NudD0mcF9wcm9kcz0mcF9jYXRzPSZwX3B2PSZwX2N2PSZwX3BhZ2U9MQ**&p_li=&p_topview=1&p_search_text=Territory,%20population%20and%20housing%20units%20not%20classified%20as%20urban%20rural

End Notes

1. Territory, population, and housing units not classified as urban. Rural classification cuts across other hierarchies and can be in metropolitan or nonmetropolitan areas (U.S. Census Bureau, 2009).

2. See Lawrence, 2004, p. 3.
3. The typology of giftedness needs to include "emotional, social, behavioral, and cognitive characteristics" that can be intertwined and influence each other (University of Kansas, p. 21).
4. As one rural teacher told me years ago, "If the cream rises, what does that make those of us who stay?"
5. Students who scored in the 90th percentile or above and had the recommendation of teachers were in programs for the gifted. The researchers eliminated a few students who scored below the 90th percentile who were in the gifted program to heighten difference with the control group (Hall & Kelly, 1995, p. 395).
6. My Class Activities is available through Creative Learning Press.
7. Readers may be interested by C. C. Blaney Elementary in rural South Carolina where whole-school Title I funding for an arts rich curriculum is used. See Lawrence et al., 2005.
8. Laurel-Concord Schools in Nebraska, for example, offer many distance-learning courses through a consortium that includes districts and university partners (http://www.goodsmallschools.org).
9. For more background, see Lawrence, 2004, p. 55.