

RESEARCH BRIEF

Raising Achievement, Closing Gaps for Low- Income Children:

What Does It Take?

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Closing the achievement gap is a daunting task, and stakeholders at the classroom, local, state, and federal levels are seeking answers to the question of how to raise the level of academic achievement among all children, regardless of race, culture, language, or socioeconomic status. This brief describes relevant data, research findings, and lessons learned from studies on closing the achievement gap between low-income children and their more advantaged peers.

Setting the Context

Data from the National Center for Children in Poverty (NCCP) indicate that 18% of children in the United States—more than 13 million—live below the federal poverty level and an additional 8% stand at poverty's door in the "low-income" category (see Table 1). These children constitute a diverse segment of the school population that includes African-Americans, Hispanics, Caucasians, English language learners, Native Americans, and

Definition of Terms

Low Income: Families and children are defined as low income if the family income is less than twice the federal poverty threshold.

Poor: Families and children are defined as poor if family income is below the poverty threshold.

Federal poverty level: The federal poverty level for a family of four with two children was \$22,050 in 2009, \$21,200 in 2008, and \$20,650 in 2007.

Source: National Center for Children in Poverty, 2008, 2009



Asian/Pacific Islanders. Some of these children have disabilities. Most have working parents who receive low wages (\$22,050 or less a year for a family of four, according to the 2009 federal poverty guidelines) or whose employment is unstable (Fass, 2009).

The research makes one thing clear: poverty is a threat to the well-being of children. Unmitigated poverty affects children’s social, emotional, behavioral, and cognitive development. For example, the U.S. Department of Education’s Early Childhood Longitudinal Study found that the cognitive development of 4-year-old preschoolers from low-income families is often as much as 18 months behind the average for 4-year-olds—a gap that persists for these children at age 10 (Klein & Knitzer, 2007). The good news is that low-income students can achieve at high levels *when schools and school systems are organized to support student success* (The Education Trust, 2009).

This brief discusses issues associated with raising the achievement of economically disadvantaged students in the Appalachia Regional Comprehensive Center (ARCC) region. The extent to which poverty affects school children within the ARCC region is illustrated in Table 1, which reflects the income status of families in the region with children under 18. Note that in Kentucky, 84% of Latino families with children under 18 are designated as low-income, making this group the most impoverished in the ARCC states. The income status of Blacks in Kentucky, North Carolina, and Tennessee is also of concern: in all three states, the percentage of low-income Black families with children under 18 exceeds the national average of 60%. Within the five ARCC states, the group that fares the best is White children in Virginia; yet even there, nearly a fourth of White families with children under 18 fall into the low-income category.

Table 1. Income Status of Families With Children Under Age 18 in ARCC Region, by Race

	White		Black		Asian		Latino		American Indian	
	Low-Income	Above Low-Income	Low-Income	Above Low-Income	Low-Income	Above Low-Income	Low-Income	Above Low-Income	Low-Income	Above Low-Income
National	26%	74%	60%	40%	30%	70%	61%	39%	57%	43%
Kentucky	39%	61%	68%	32%	**	**	84%	**	**	**
North Carolina	28%	72%	67%	33%	**	**	70%	30%	**	53%
Tennessee	35%	65%	67%	33%	**	**	77%	**	**	**
Virginia	23%	77%	52%	48%	**	75%	48%	52%	**	**
West Virginia	46%	54%	**	**	**	**	**	**	**	**

Source: National Center for Children in Poverty (NCCP)

**This estimate was not shown due to an extremely small sample size.

Note: “NCCP state data were calculated from the Annual Social and Economic Supplement (the March supplement) of the Current Population Survey from 2006, 2007, and 2008, representing information from calendar years 2005, 2006, and 2007. NCCP averaged 3 years of data because of small sample sizes in less populated states. The national data were calculated from the 2008 data, representing information from the previous calendar year.” Retrieved May 2009 from <http://www.nccp.org/tools/demographics/>

Research on Low-Income Students and the Achievement Gap

Students whose family incomes are low are variously described in the education research literature as disadvantaged, economically disadvantaged, at-risk, children of poverty, and children of low socioeconomic status. In most instances, these terms describe students who are eligible to receive free and reduced-price meals; at the school level, high-poverty status is determined by the percentage of students eligible for subsidized meals. Since 1999, the Education Trust has researched and reported on many high-poverty schools that produce high student achievement. Other researchers have also examined variables related to demographics,

poverty, and student achievement (Edmunds, 1979; Carter, 1999; Barth et al., 1999; and Reeves, 2009), and their findings suggest that school climate and school culture and teaching quality have great impact on student achievement. This brief examines these two major categories of research related to the achievement gap and children from low-income families.

School climate and school culture. School improvement occurs within human systems infused with beliefs, assumptions, expectations, norms, and values. These systems manifest at both the individual and organizational levels; that is, their characteristics are both idiosyncratic to individual members of organizations and shared by the collective group (Deal, 1985; Deal, 1993). School climate and school culture

emerge from these systems and play complex roles in school improvement and student achievement.

Hoy and Miskel (2004) define *climate* as the end product of school groups—students, teachers, and administrators—as they work to balance individual and collective interactions within the organization. In everyday language, climate is sometimes called the atmosphere, personality, ethos, or feeling of an organization. *Culture* is defined as the shared values, beliefs, and expectations that result from social interactions within organizations—the way we do things around here (Deal, 1993).

Victoria Bernhardt (1998) asserts that school processes are the only measures we have control over in schools. She says that these processes—often referred to as “the way schools do business”—include such entities as programs, practices, and instructional strategies. The implication is that *people* make decisions about what happens in schools. But *culture* plays a significant role in decision making: How do people make decisions? What values and beliefs drive “thinking and doing” to serve students? In the cultures of high-poverty, high-performing schools, principals and teachers have high expectations for their students (Kannapel & Clements, 2005; Barth et al., 1999); and these expectations are demonstrated through the kinds of academic standards that are set, and through the social and emotional support that is offered. In essence, principals and teachers form nurturing relationships that help students feel supported as they strive to meet high standards. In addition, teachers target individual students’ needs and implement strategies that facilitate learning (Wienstein et al., 1991).

The results from studies by Roland Barth (1990) and Linda Darling-Hammond (1997) further support the notion that many of the solutions in schools are found when staff work together. In high-poverty, high-performing schools, working together to select and plan for instruction and establish classroom processes is a core activity for focusing on instruction (Bernhardt, 2004; Kannapel & Clements, 2005). Additionally, a variety of data is routinely collected and analyzed to inform instructional and school decisions (Johnson, 1996). Data can also play a role in ensuring equity. Data conversations among staff can facilitate reflections and actions pertaining to gender, race, class, and cultural issues (Love, 2002). These conversations can lead to decisions about teachers’ assignments and student enrollment in higher-level courses.

In sum, school climate and school culture shape the feel and tone in schools. They impact individual and group experiences of students, staff, and community. While producing positive student achievement is a major expectation for

schools, positive school climate and school culture are key mediators that should not be overlooked.

Teacher quality and its implications for student achievement. The No Child Left Behind Act of 2001 mandates that districts and schools employ only teachers who are highly qualified and fully credentialed and have the skills needed to teach all children regardless of race, culture, language, or socioeconomic status. While the demographics of public schools in the United States have changed dramatically over the past decades, with schools serving increasing numbers of minority students, the teaching population remains predominantly White and middle class. According to Gay (1993), these demographics present serious challenges for teachers—particularly when students’ cultural values conflict with the middle-class values of teachers. A study conducted by Avery & Walker (1993) reported that teachers lacked the knowledge and the preparation needed to work with diverse populations. In this same study, 40% of first-year teachers indicated that their teacher preparation program had not trained them to work in diverse environments (Avery & Walker, 1993).

In recent years, Goe (2007) conducted research on the same issue: teacher preparation related to the challenges of teaching in diverse classrooms. Goe asserts that one way to deal with this issue is to ensure that ample instruction is included in teacher preparation curriculum for all teachers—both general education teachers and those who work with special needs or at-risk students—who are placed in the general classroom setting. Goe’s research also indicates that students identified as at risk due to poverty and students with special needs are best served by teachers who have received specialized training through a teacher preparation program or through professional development.

Critical to efforts aimed at closing the achievement gap is the preparation, recruitment, and retention of qualified teachers who are culturally responsive to the needs of students who live in poverty or are ethnically, culturally, and/or linguistically diverse (Gay, 2002; Darling-Hammond, French, & Garcia-Lopez, 2002). Researchers such as Gay (2002) and Sleeter (2001) have demonstrated a connection between teachers’ lack of competency in teaching culturally and linguistically diverse learners and students’ persistent achievement difficulties. Researchers Klein and Knitzer (2007) further highlight the issue of preparing teachers to teach diverse student populations in their work on preschool curricula. They found that enacting an intentional curriculum—one that is research-based, content focused with attention to social and regulatory skills—requires teachers who have been prepared to work

with culturally diverse students, especially low income and English language learners.

To accomplish the NCLB mandate of hiring only highly qualified teachers, educators and policymakers will have to address several issues. For example, poor working conditions and disparities in salaries can prevent schools in high-poverty areas from hiring the most capable teachers. Underprepared teachers and untrained aides are often assigned to schools where students have the greatest educational needs. Other issues needing attention include effective recruitment incentives; retention of qualified teachers, especially in hard-to-staff schools; and creation of a national labor market through the removal of interstate barriers to teacher mobility (Darling-Hammond & Skyes, 2003; Clotfelter, Ladd, Vigdor, & Wheeler, 2006). The teacher turnover rate in high-poverty schools is particularly troubling. Although a number of new teachers enter the profession each year, more than 30% leave within 5 years; this turnover rate is 50% higher in low-income schools as compared to more affluent schools, with the result being a constant influx of inexperienced teachers in schools that serve low-income children (Ingersoll, 2001).

The evidence suggests that teachers with a combination of attributes—subject-matter knowledge and methods for teaching it, strong verbal skills, and professional knowledge and experience—make an important difference in student learning. Characteristics such as attitude, enthusiasm, flexibility, perseverance, concern for children, and specific teaching practices also make a difference for learning (Good & Brophy, 1995). Gay (2002) makes the case for improving the school success of ethnically diverse students through *culturally responsive teaching* and for preparing teachers with the knowledge, attitudes, and skills needed to accomplish this goal. Gay defines culturally responsive teaching as using the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively. It appears that the strongest guarantee of teacher effectiveness is a combination of all these elements.

In the ARCC region, states seem to be making progress toward hiring highly qualified teachers for core academic classes. Table 2 reflects the percentage of core academic classes taught by highly qualified teachers in the five ARCC states. On average, between 2003 and 2008, more than 90% of these classes were taught by highly qualified teachers at all grade levels. The table illustrates the percentages of highly qualified teachers working with high-poverty and low-poverty students.

Selected Effective Instructional Practices of High-Performing, High-Poverty Schools

Researchers tend to agree that staffing schools with highly qualified teachers is a critical component to improving student achievement. Studies on high-performing, high-poverty schools have also identified several practices commonly implemented in such schools: a focus on student achievement, increased instructional time, professional development for staff, ongoing assessment and monitoring, and parent involvement.

A focus on academic achievement. In all high-performing, high-poverty schools, the focus is on curriculum, instruction, and assessment (Haycock, 2001; Reeves, 2009). With the standards-based reform movement, states have established standards that identify what students should learn, but in many instances districts have been slow to use these standards to design and implement a challenging or rigorous curriculum. In schools that are high performing, mathematics and reading have been areas of focus. While some high-performing schools selected standards-based, commercial curricular packages, others had no program other than the adopted basic textbook series. Regardless of the program used, high-performing schools consistently focus on core skills for academic subjects, and academic achievement is a consistent priority.

Increased instructional time. One successful practice is to provide additional instructional time for students in core subjects, especially math and reading (Kannapel & Clements, 2005; Carter, 2000). This is accomplished by offering longer “on-task” instructional periods and arranging for extra support by using parents and peer tutors, or by extending the school day and bringing in teams from the business community or retired educators to assist students (Center for Public Education, 2005). Allington (2001) found that exemplary elementary teachers involved children in actual reading and writing for at least half of the typical 5-hour school day. A major finding of this study was that the lowest achievers benefitted the most from the literacy practices implemented by these exemplary teachers (Allington & Johnston, 2002). Another instructional strategy practiced by these exemplary teachers was the use of direct explicit demonstrations (modeling) of cognitive strategies used by good readers. Strategies modeled included decoding unknown words, self-monitoring for understanding, and summarizing while reading. For example, a teacher might demonstrate, through a think-aloud process, a strategy for deleting redundant or trivial information while developing a summary statement.

Professional development for staff. Professional development is often cited as a strategy for improving teacher learning to improve student achievement. In high-performing, high-poverty schools, professional development is generally associated with programs and practices to improve student achievement (Barth et al., 1999; Hill, 2009). In many of the schools, teachers work in professional learning communities or professional learning teams. In these teams they assume leadership for guiding the design, delivery, and implementation of professional learning. For example, teachers work together on such issues as lesson plans and student work. These activities take considerable time and require leadership support as well as routine and ongoing collaboration opportunities. DuFour (2004) encourages the creation of structures and processes to promote collaboration as well as a focus on student learning and results. Learning community participants hold each other accountable for

expected outcomes; as a result, many teachers come to embrace practices often rejected prior to joining a learning community (Reeves, 2008).

Ongoing assessment and monitoring. Studies of high-performing schools show that using data in schools really does matter. High-performing schools collect data from a variety of sources and at all levels—school, classroom, and student—and teachers use data to diagnose learning problems and to select the appropriate interventions to help students who are struggling. Many high-performing schools establish comprehensive data systems for monitoring and analyzing student progress (Barth et al., 1999; Reeves, 2009). Data reviews are conducted on a regular basis, and teachers use the results to shape instruction. After analyzing the data, for instance, teachers may decide to provide remediation with explicit feedback, reteach a particular concept, and/or regroup students for further intervention (Baker, Gersten, &

Table 2. Percentage of Core Academic Classes Taught by Highly Qualified Teachers in the ARCC Region

	State	Elementary Level		Secondary Level		Elementary and Secondary Levels (Combined)	
		High Poverty	Low Poverty	High Poverty	Low Poverty	High Poverty	Low Poverty
SY 2003-04	KY					97.7	95.3
	NC					82.0	87.0
	TN					56.1	50.3
	VA					92.2	96.5
	WV					96.5	94.6
SY 2004-05	KY	98.8	99.2	93.4	96.4		
	NC	88.0	93.0	79.0	88.0		
	TN	81.3	87.9	71.0	81.3		
	VA	94.7	98.0	93.0	97.2		
	WV	98.5	99.0	92.2	94.1		
SY 2005-06	KY	98.1	98.9	91.7	96.9		
	NC	95.1	97.0	87.2	92.7		
	TN	98.1	99.1	93.7	97.9		
	VA	96.2	98.6	93.9	97.9		
	WV	98.5	97.6	84.8	90.5		
SY 2006-07	KY	98.9	99.4	96.7	97.6		
	NC	98.3	99.2	92.5	96.7		
	TN	98.1	99.1	93.7	97.9		
	VA	96.6	98.5	93.5	98.1		
	WV	94.2	95.9	82.8	87.2		
SY 2007-08	KY	99.2	99.5	97.2	98.2		
	NC	98.7	99.4	93.3	97.4		
	TN	98.1	99.4	94.2	98.3		
	VA	97.5	98.7	95.9	98.9		
	WV	96.9	97.2	84.0	86.5		

Sources: U.S. Department of Education, 2008, 2009; Assessing State Progress in Meeting the Highly Qualified Teacher Regulations: State Report Cards and Consolidated State Performance Reports (CSPR) were accessed via the Web sites of the Kentucky Department of Education, North Carolina Department of Public Instruction, Tennessee Department of Education, Virginia Department of Education, and West Virginia Department of Education.

Lee, 2002). Principals play a major role in effectively using data because trends often reveal the need to adjust resource expenditures to address emergent issues. Also, teachers often use the results from benchmark assessments to reinforce student efforts and to keep students engaged and motivated.

Parent involvement. According to Barth and colleagues (1999), schools that work with families and encourage participation in the schools, as well as engagement in extended at-home activities, enable greater numbers of students to learn and meet grade-level expectations. In particular, Barth reports that high-performing schools engage parents in the learning process and help them understand standards and student work. Carter (2000) also found that it was important to have parents personally invested in the education of their children. Using the contract model, the school asks parents and students to sign a written agreement committing to parental responsibilities such as getting the student to school on time and helping with homework.

Conclusions

Although many schools are struggling to close the achievement gap between advantaged and nonadvantaged students, some schools have found ways to improve the educational achievement of all students regardless of race, culture, language, or socioeconomic status. The research on high-poverty, high-performing schools demonstrates that schools can become places where low-income students make educational progress. What does it take? It appears that the key to closing the achievement gap is a combination of (1) school culture that fosters professional collaboration and sets high expectations for teachers and students alike, and (2) highly qualified teachers who are culturally responsive to the needs of students and capable of implementing effective instructional practices. Professional development for staff and parent involvement seem to be important supports for this work.

References

- Allington, R. L. (2001). *What really matters for struggling readers: Designing research-based interventions*. New York: Longman.
- Allington, R. L., & Johnston, P. H. (2002). *Reading to learn: Lessons from exemplary fourth-grade classrooms*. New York: Guilford.
- Avery, P. G., & Walker, C. (1993). Prospective teachers' perceptions of ethnic and gender differences in academic achievement. *Journal of Teacher Education*, 44(1), 27–37.
- Baker, S., Gersten, R., & Lee, D. (2002). A synthesis of empirical research on teaching mathematics to low-achieving students. *The Elementary School Journal*, 103(1), 51–73.
- Barth, P., Haycock, K., Jackson, H., Mora, K., Ruiz, P., Robinson, S., et al. (Eds.). (1999). *Dispelling the myth: High poverty schools exceeding expectations*. Washington, DC: Education Trust.
- Barth, R. *Improving schools from within*. (1990). San Francisco: Jossey-Bass.
- Bernhardt, V. L. (1998). *Data analysis for comprehensive schoolwide improvement*. Larchmont, NY: Eye on Education.
- Bernhardt, V. L. (2004). *Data analysis for continuous school improvement* (2nd ed.). Larchmont, NY: Eye on Education.
- Carter, S. C. (1999). *No excuses: Seven principals of low-income schools who set the standard for high achievement*. Washington, DC: Heritage Foundation.
- Carter, S. C. (2000). *No excuses: Lessons from 21 high-performing schools*. Washington, DC: Heritage Foundation.
- Center for Public Education. (2005). *High-performing, high-poverty schools* [Research review and related resources]. Retrieved from http://www.centerforpubliceducation.org/site/c.kjXJ5MPIwE/b.1499465/k.492E/Highperforming_highpoverty_schools.htm
- Clotfelter, C., Ladd, H., Vigdor, J., & Wheeler, J. *High poverty schools and the distribution of teachers and principals*. Retrieved from <http://www.pubpol.duke.edu/research/papers/SAN06-08.pdf>
- Darling-Hammond, L., French, J., & Garcia-Lopez, S. P. (2002). *Learning to teach for social justice*. New York: Teachers College Press.
- Darling-Hammond, L., & Sykes, G. (2003). Wanted: A national teacher supply policy for teacher education: The right way to meet the “highly qualified teacher” challenge. *Education Policy Analysis Archives*, 11(33). Retrieved from <http://epaa.asu.edu/epaa/v11n33/>
- Darling-Hammond, L. (1997). *The right to learn*. San Francisco: Jossey Bass.
- Deal, T. (1985). Cultural change: Opportunity, silent killer, or metamorphosis? In R. H. Kilman, M. J. Saxton, & R. Serpa (Eds.), *Gaining Control of the Corporate Culture*. San Francisco: Jossey-Bass.
- Deal, T. (1993). The culture of schools. In M. Shaskin & H. J. Walberg (Eds.), *Educational Leadership and School Culture*. Berkley, CA: McCutchan Publishing Company.
- DuFour, R. (2004). What is a professional learning community? *Educational Leadership*, 61(8), 6–11.
- Edmunds, R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37(1), 15–23.
- Fass, S. (2009). *Measuring poverty in the United States* [Fact sheet from the National Center for Children in Poverty]. Retrieved from http://www.nccp.org/publications/pdf/text_876.pdf
- Gay, G. (2002). Preparing for culturally responsive teaching. *Journal of Teacher Education*, 53(2), 106–116.

- Gay, G. (1993). Building cultural bridges: A bold proposal for teacher education. *Education and Urban Society*, 25(3), 285–299.
- Goe, L. (2007). *The teacher preparation → teacher practices → student outcomes relationship in special education*. Washington, DC: National Comprehensive Center for Teacher Quality.
- Good, T., & Brophy, J. (1995). *Contemporary educational psychology* (5th ed.) New York: Harper Collins.
- Haycock, K. (2001). Closing the achievement gap. *Educational Leadership*, 58(6), 6–11.
- Hill, H. (2009) Fixing professional development. *Phi Delta Kappan*, 90(7), 470-476.
- Hoy, W., & Miskel, C. (2004). *Educational administration: Theory, research, and practice* (2nd ed.). New York: Random House.
- Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, 38(3), 499–534.
- Johnson, R. (1996). *Setting our sights: Measuring equity in school change*. Los Angeles: Achievement Council.
- Kannapel, P. J., & Clements, S. K. (2005, February). *Inside the black box of high-performing high-poverty schools*. Lexington, KY: The Prichard Committee for Academic Excellence.
- Klein, L. G., & Knitzer, J. (2007). *Promoting effective early learning: What every policymaker and educator should know*. New York: National Center for Children in Poverty.
- Love, N. (2002). *Using data and getting results: A practical guide for school improvement in mathematics and science*. Norwood, MA: Christopher-Gordon Publishers.
- National Center for Children in Poverty. (2008). *Low-income children in the United States: National and state trend data, 1997-2007*. Available from http://www.nccp.org/publications/pdf/text_851.pdf
- National Center for Children in Poverty. (2009). *50-state demographics wizard* [Data tool]. Available from <http://www.nccp.org/tools/demographics/>
- Reeves, D. (2009, April 17). Uncovering the “secrets” of high poverty, high success schools. *Teachers of Color*. Retrieved from <http://www.teachersofcolor.com/2009/04/uncovering-the-secrets-of-high-poverty-high-success-schools/>
- Reeves, D. (2008). *Reframing teacher leadership to improve your school*. Alexandria, VA: Association for Supervision and Curriculum Development.
- The Education Trust. (2009). *Education Watch National Report*. Retrieved from <http://www2.edtrust.org/edtrust/summaries2009/USA.pdf>
- U.S. Department of Education. (2009). *Spring 2009 EDFacts state profiles* [Fact sheets]. Available from <http://www.ed.gov/about/inits/ed/edfacts/state-profiles/index.html>
- U.S. Department of Education. (2008). *Mapping educational progress 2008* [Clickable map linked to state fact sheets]. Available from <http://www.ed.gov/nclb/accountability/results/progress/index.html>
- Weinstein, R., Soule, C., Collins, F., Cone, J., Mehlorn, M., & Stimmonacchi, K. (1991). Expectations and high school change: Teacher-researcher collaboration to prevent school failure. *American Journal of Community Psychology*, 19, 333–363.



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