



Quality School LEADERSHIP

Hiring Quality School Leaders

Challenges and Emerging Practices



AMERICAN INSTITUTES FOR RESEARCH®

A QUALITY SCHOOL LEADERSHIP Issue Brief | January 2012



Quality School LEADERSHIP

High-performing and dramatically improving schools are led by strong principals. The Quality School Leadership (QSL) services developed by American Institutes for Research give educators the tools they need to hire and assess their leaders. Our Quality School Leadership Identification (QSL-ID) process is a standardized hiring procedure built from research-based tools that local hiring committees can use to reach consensus when selecting a new school principal.

The QSL-ID process guides schools and districts through each of the specific steps to hiring the right school leader and allows them to:

- Establish an effective hiring committee that understands the specific leadership needs of the school or district.
- Recruit principal candidates based on the criteria that best meet school and district goals.
- Identify the strongest candidates and conduct an onsite performance assessment of finalists.
- Plan for a smooth leadership transition.

Learn more about our QSL-ID services at
[http://www.learningpt.org/expertise/educatorquality/
schoolLeadershipIdentification.php/](http://www.learningpt.org/expertise/educatorquality/schoolLeadershipIdentification.php/).

Hiring Quality School Leaders

Challenges and Emerging Practices

Revised January 2012

Matthew Clifford, Ph.D.

Contents

- 1** Introduction
- 1** Expectations for a New Generation of Leaders
- 3** A Changing Workforce
- 4** Common Challenges to Hiring Principals
 - 5** Practices That Limit the Ability to Attract the Best Candidates
 - 5** Practices That Hinder Hiring Committees' Ability to Make Effective Decisions
- 7** Emerging Practices
 - 7** Recruitment Planning
 - 8** Selection
- 11** Conclusion
- 12** References

Acknowledgments

The author wishes to thank Kenneth Arndt, Ph.D.; Jane Dargatz; Troyce Fisher, Ed.D.; and Martha McCarthy, Ph.D., whose review of this brief improved its content.

The author also wishes to thank Publication Services staff at American Institutes for Research, particularly Christine Hulbert and Laura King, who helped to shape the work.

Introduction

Leadership transitions provide opportunities for organizational growth and development. In the field of education, choosing an effective school principal is one of the most significant decisions that a superintendent or school board can make, as new leadership can propel a district forward in meeting its goals (Elmore & Burney, 2000). Principals are responsible for setting school improvement agendas and teacher workplace conditions and ensuring that the school performs in accordance with state/national policies and community expectations. However, many school districts report that recruiting and selecting new school principals is challenging.

This brief describes the challenges that school superintendents and hiring committees face when trying to hire a school principal by drawing upon research. In addition, the brief offers practical, emerging practices that school superintendents and hiring committees have implemented to address challenges.

Expectations for a New Generation of Leaders

Hiring a new principal can affect the vitality and student achievement rates of a school. Research indicates that school principals heavily influence teacher working conditions and affect the ability of districts to attract and retain talented teachers (DeAngelis, Peddle, & Trott, 2002; Regional Educational Laboratory Midwest, 2008). School leadership, after instructional quality, is the most significant school-related contributor to what and how much students learn at school (Leithwood, Louis, Anderson, & Wahlstrom, 2004).

When making hiring decisions, superintendents and school boards must consider the future of their district and schools. According to Lambert et al. (2002), perceptions of teaching and learning have changed during the past ten years, and expectations of schools, and the principals who lead them, have changed as well (see Table 1). Contemporary school principals' leadership responsibilities not only include the traditional task of efficiently managing students, staff, and grounds but also deep engagement in instructional and community issues (Whitaker, 2002). Contemporary school principals are being asked to build professional communities of reflective practitioners who critically consider how schools can improve learning and achievement of all students (Lambert et al., 2002).

To reflect these new expectations, the Council of Chief State School Officers (CCSSO) revamped the Interstate School Leaders Licensure Consortium (ISLLC) standards in 2008. The ISLLC standards have been integral in establishing a common language and framework for what school leaders should know and be able to do. The standards highlight the following new and significant roles that school-level leaders play in establishing conditions for high-quality instruction and organizational learning:

- Strategically allocate staffing and other resources to areas of high need.
- Closely monitor teaching and learning quality.

- Establish and maintain a vision and focus on a core set of organizational goals.
- Build trust and professional community among educators.
- Ensure that schools are safe learning environments for students and staff.
- Use data to reflect upon and improve classroom and organizational practices.

In addition to the new expectations for school principals outlined in the ISLLC standards, the practice of school leadership requires principals to make critical determinations about school capacity and find ways to institute and inspire improvement in teaching and learning. Teachers often need to rework organizational and teaching practices, which requires a thorough understanding of school and community culture.

Table 1. The Changing Vision of Leadership

Leadership Approaches					
Role of Leader	The Scientific Manager	The Rule Setter	The Sage on the Stage	The Model Teacher	The Leader Among Leaders
	Leaders uphold traditions in school and community and work to create a more efficient system to attain goals.	Leaders shape behaviors to meet organizational or societal goals and encourage people to work within established norms.	Leaders work closely with individuals as a teacher might work with a student and adjust approaches to move individuals toward achievement of organizational goals.	Leaders encourage individual problem solving and redevelopment of practice by facilitating teacher reflection and learning.	Leaders recognize their limitations and who is in the best position to lead and work to establish organizational processes to encourage others to lead and learn together.
Who Leads?	School and district administrators lead.	School and district administrators lead.	School and district administrators lead.	School administrators lead curriculum improvement and monitoring efforts, and teachers play significant roles.	Leadership is shared among principals and teachers.
Organizational Improvement Approach	Focus on the efficient management of student and staff time and financial resources.	Focus on developing incentives and sanctions for better performance of teachers and students.	Focus on assessing teaching and adapting leadership style to match teacher developmental needs.	Focus on modeling, coaching, and refereeing instruction, and establishing programs to do so.	A flattened organization allows democratic decision making and processes to take place among communities of professionals.

Adapted from Walker (2002)

A Changing Workforce

Workforce projections indicate that more school boards and superintendents will need to hire new principals for their schools (Educational Research Service, 2000). According to some estimates, 40 percent of the current principal workforce will retire by 2014 (Baltzell & Dentler, 1983; Educational Research Service, 2000; Hammond, Muffs, & Sciascia, 2001). Other researchers contend that increased job stress and complexity will further accelerate retirement and attrition of the current principal workforce (Gates, Ringel, Santibañez, Ross, & Chung, 2006). Several studies suggest that urban and rural districts, particularly those with a poor track record of student achievement and high family poverty rates, are struggling to fill vacant school principal positions (Farkas, Johnson, & Foleno, 2001; The New Teacher Project, 2006; Olson, 2008).

The demand for new school principals has remained relatively stable—increasing by 7 percent during a 20-year period; however, workforce turnover rates continue to increase as the professional workforce ages.

As noted in Table 2, the new generation of school principals is older, more diverse, more professionally experienced, and more mobile than principals of 10 or 20 years ago (Gates et al., 2003).

Table 2. Demographics of the New Generation of School Principals

Aging Profession	The average age of school principals has increased from 48 to 50 years old, and less than 12 percent of new principals are 40 years old or younger.
Increasing Proportion of Women	During the past 20 years, the percentage of female principals has increased by 20 percent to 44 percent of the workforce in 2000.
Low Minority Representation	The racial/ethnic composition of the school principal workforce does not reflect the diversity of the student or teaching population. Only 18 percent of public school principals in the United States are considered racial/ethnic minorities.
More Highly Experienced Educators	Nearly 99 percent of new principals are former teachers with, on average, more than 14 years of classroom experience, and the average number of years of teaching has increased by three years since 1994.
Increased Mobility	Given that the majority of school principals leave their positions by age 55 and that the average school principal moves to a new school at least once, the new generation of principals will spend less time at the helm.

Source: Gates et al. (2003)

Common Challenges to Hiring Principals

According to a nationally representative survey, superintendents report that hiring new school principals is highly challenging (Farkas, Johnson, Duffet, & Folero, 2001). Research suggests that districts are challenged to hire school principals because available testing instruments of principal abilities (e.g., Praxis Educational Leadership: Administration and Supervision Examination, VAL-ED) are not effective predictors of practice, and districts commonly do not allot enough time or resources to making the appropriate match between local school/district leadership needs and candidates' demonstrated skills and abilities.

In part, hiring an effective principal is challenging because a candidate's leadership ability in a local school is difficult to gauge. Although many states now test prospective principals, the instruments are best used as summative assessments of new principals' acquisition of certain skills, and their predictive power for principal job success is unclear (Leithwood et al., 2004). Such is the case in the business sector, where research suggests that the best trained candidates with high professional proficiency certification examination scores sometimes fail in their attempts to lead organizations because their leadership approaches or professional skills do not move people to action, but candidates who do not appear strong on paper may succeed as leaders (Sessa, Kaiser, Taylor, & Campbell, 1998). Currently, there appears to be no algorithm for determining the match between candidates and schools. The success of new school leaders is contingent upon their endorsement by teachers, staff, and community members (Lambert et al., 2002; Leithwood et al., 2004), so selecting new school principals should be a local effort that includes stakeholders who understand school culture and direction.

School district hiring processes present a second challenge in selecting new school principals. Although school boards make final hiring decisions, hiring committees are responsible for ensuring the appropriate match between new school principals and local school/community culture. Local hiring committee involvement also can begin the process of leadership succession, which is essential in setting the tone for new principals' administration (Fink & Brayman, 2006). Hiring committees, commonly comprised of central office personnel, teachers, classified staff, parents, and community members, evaluate applicants and recommend principal candidates for hire (Muhlenbruck, 2001).

Practices That Limit the Ability to Attract the Best Candidates

According to research, some district hiring practices limit the applicant pool and hinder the committees' ability to attract the best candidates. Districts are encouraged to avoid the following practices during the recruitment process.

Failing to Determine and Understand Needs. School districts and private sector search committees often pay only cursory attention to analyzing an organization's needs prior to the executive search and the establishment of the job description that reflects those needs (Sessa, Kaiser, Taylor, & Campbell, 1998).

Casting a Narrow Net. Most applicants for open positions come from within the district or nearby districts' teacher or administrative pools (Anderson, 1991; Normore, 2004; The New Teacher Project, 2006), particularly when superintendents believe their district is unattractive to prospective principals (Hooker, 2000).

Allocating Inadequate Time and Funding to the Search. School districts allocate less time and less funding to leadership position searches than private businesses or nonprofit agencies, which hampers hiring committees' abilities to holistically evaluate candidates (Hollenbeck, 1994). The executive search budgets for small businesses can exceed \$100,000, which includes staff time and other expenses. Most school districts would be challenged to fund a principal search at this level, but investing in a thorough and rigorous search may save time and money in the long term.

Practices That Hinder Hiring Committees' Ability to Make Effective Decisions

After the initial recruitment phase, committees must have a clear understanding of their role in the hiring process and access to relevant data to assist them in making effective hiring decisions. Researchers recommend that districts avoid the following practices during the selection process.

Disregarding Relevant Data During the Hiring Process. School district data and research is infrequently accessed when educators make critical decisions about personnel and instruction (Schlueter & Walker, 2008).

Overlooking Selection Criteria and Standards. Hiring committee members often do not make expectations and criteria for principal selection explicit or tie selection criteria to current school or district goals. Frequently, national/state standards and assessment are not considered (Schlueter & Walker, 2008).

Failing to Clarify Roles and Responsibilities of Selection Committees. Across districts, hiring committee membership and the role of the hiring committee in candidate selection varies (Spanneut, 2007; Whaley, 2002).

Hiring for Just the Position, Not the Organization. Although principals primarily lead schools, they also are frequently called upon to lead district initiatives and contribute to the district's ability to address emergent issues.

Neglecting to Consider Variations in What Information Is Collected, and How It Is Weighed. District hiring committees frequently consist of superintendents, other principals, teachers, and community members who have different visions for what the school/district needs and what makes an effective leader. Although districts collect remarkably similar information on candidates, it is not always clear how hiring committees weigh such information and compare it to school data in making hiring decisions (Spanneut, 2007; Whaley, 2002).

Like many businesses or nonprofit agencies, school districts are challenged to make the appropriate match between the new generation of executives and the organizations they are called upon to lead. Research suggests that workforce supply is adequate but that district hiring systems lack the capacity to attract, select, and transition school principals. Consequently, district search committees may miss the opportunity to recruit and match the best candidates to their schools and districts.

Emerging Practices

Many districts have begun to revise and standardize principal hiring practices to ensure that search committees attract the right talent to the principalship and make informed decisions about future leaders. School systems, such as New York School District 2, have rethought principal development, hiring, induction, and support processes to ensure that the district is cultivating and attracting future principals, hiring the right candidates for positions, and supporting principals' work (Elmore & Burney, 2004). Similarly, private and nonprofit companies have become adept in executive hiring and think differently about the process and candidates by taking a systems view on cultivating and managing talent. From their perspective, executive hiring begins long before a vacancy announcement and continues through executive succession when the new leader is welcomed into the organization.

Recruitment Planning

In 2009, Learning Point Associates* conducted a scan of relevant literature and district websites to identify emerging school principal hiring practices. The extensive review revealed the following recruitment planning practices.

Prepare for Succession. A change in leadership can be emotional for an organization, and without conversation about what change may bring, the organization may not be ready to receive a new executive. Engaging the current school principal and staff in conversation about organizational goals and plans and the leadership transition is an important part of succession planning. Succession planning should start prior to recruitment with meetings to announce the vacancy and plans to fill the position.

Allow Time. Although unanticipated personnel changes occur, the risk of choosing an ineffective school principal is great when hasty decisions are made. The review of large urban school districts' hiring procedures conducted by Learning Point Associates in 2009 suggests that school districts allow one year from the point of a vacancy announcement to recruit, select, and transition a permanent replacement for a school principal, but smaller school districts may allow less time. Because schools and communities are involved and invested in hiring a new school principal, budgeting for a comprehensive and holistic review process is essential.

Get Board Agreement. The superintendent or human resources director should meet with the school board to discuss roles and responsibilities of the search committee chair and members, the search process, budget for the search, and criteria for selection. Search committee chairs, search committee members, and others should know how much time to dedicate to the search.

* Learning Point Associates merged with American Institutes for Research in August 2010.

Set Priorities Via Goals and Data Workshops. Collect and represent data and other information about school and district goals, and discuss—in light of student and teaching data—the degree to which goals have been met. With a neutral and experienced facilitator, meet with search committee members and others to discuss how the new school principal can help the school/district meet these goals and what types of knowledge, leadership styles, and attitudes the ideal candidate must possess. By the end of the meeting, search committee members should be able to answer common candidate questions, such as the following: “What are your priorities for this position?” “Why am I considered a good candidate?” and “How will my performance be measured?”

Reconsider the Position. District and school expectations and demands on school principals may have changed since the last vacancy, and new school principals report job stress as a significant factor in the choice to leave their school or profession. Use the information from the goals and data retreat to rewrite, if necessary, the principal job description, and consider ways that central office and school staff can take on additional tasks to relieve stress, particularly during the transition period. Board approval should be sought on the revised job description.

Update School and District Information. A well-placed vacancy announcement will likely increase website traffic and requests for information on school/district size, culture, and performance. To attract the best candidates and reduce staff burden, plan to update the school and district websites to include the most current information.

Document Each Step in the Process. Hiring processes should be formalized and systematic, and each step in the hiring process should be documented. Should questions arise about search committee decisions, documentation can be produced to show that the search proceeded systematically and without bias.

Be Strategic About Recruiting. Develop and maintain professional networks outside the organization that may serve as sources for candidates or recommendations of candidates, and notify the people in your network when vacancies arise. Formally advertise positions through preservice certification programs, professional associations, and Internet-based employment services.

Selection

The Learning Point Associates literature review provided the following emerging selection practices.

Consider Standards and Research. To a certain extent, search committees can and should set their own selection criteria because principal hiring is such an important local decision. However, research has provided committees with tools to collect and evaluate candidates. Committees should understand and review national and state-level standards

for professional practice (e.g., ISLLC), tests of new school principal competency, and established criteria for principal career portfolio assessment when considering candidates. These data should be supplemented with data from job applications, interviews, or on-site performance tasks that the committee systematically collects during the interview process.

Establish a Consistent and Reliable Search Committee. A search committee of five to seven members (including the chair) should be convened and consistently engaged in the hiring process. The committee chair is responsible for ensuring that members understand selection criteria and consistently review applications. One way to ensure reliability in the committee is to have members rate a mock application and discuss their decisions.

Conduct a Blind Review of Applications. A blind review eliminates names and significant identifiers from application forms in order to reduce biases. Search committee chairs can ask support staff to eliminate names or other nonvital information prior to sending applications to raters on the search committee. The chair also should be sure that search committee raters have no conflicts of interest. During application review, all committee members should have the same information about each candidate, use the same rating form, and submit responses independently. The goal of application review is to identify the top ten candidates to be interviewed.

Screen With Interviews. Although the application form provides some insight on candidate qualifications, interviews provide committee members with a more holistic view of candidates and are effective predictors of future performance. For interviews, the search committee should create and review five to ten questions that align with hiring priorities and professional standards. Question responses should be recorded, and interviewees should independently rate candidate performance. During a meeting after all interviews are complete, search committee members should identify three to five candidates for an on-site visit.

Have Finalists Visit the School. A one-day, on-site visit by the finalist candidates to the school can help search committee members and candidates make decisions about the quality of the match. The on-site visit can include authentic tasks and interviews with other stakeholders (e.g., teachers, community members). Stakeholder interview questions should be determined ahead of time, and reactions should be systematically collected. Authentic tasks include student data reviews, building walk-throughs, and teacher observations; they provide the committee with insight on candidate attitudes and skills. Committee members should plan to debrief tasks with candidates during a short interview and rate candidate performance afterward. After collecting data from the on-site interviews, search committee members should rank the top five candidates and prepare to discreetly offer the position to the top candidate.

Meaningfully Engage Other Stakeholders. Invite community members and businesses to meet and interview finalists and provide input into the hiring decision. Districts and businesses have increasingly turned to 360 degree performance assessments of current employees, and similar methods can be used to collect and evaluate prospective employees. Because principals' work involves community members and school and district staff, hiring committees should seek input from these and other salient groups. If other stakeholders' input is sought out, they should be oriented to the hiring process, and their reactions should be documented.

Resist Quick or Emotional Decisions. Search committee members commonly make decisions about candidates within the first three minutes of an interview and base these decisions upon personal attraction, candidate reputation, or candidate similarities to the search committee member. Well-coached candidates know this. In hiring, it is important to consider these initial reactions but remain focused on the goals and criteria for the hire. The hiring process should be methodical in surfacing these initial reactions and helping committee members work with them and other information to make a well-informed decision.

Conclusion

Choosing a new leader is not an easy task for any organization, and the complex work of schools makes principal identification and selection even more challenging. The increased demand for high-quality principals in schools requires districts to select school principals who are prepared to use contemporary leadership approaches to improve teaching, learning, and organizational performance.

Researchers and practitioners have suggested that challenges to recruiting and selecting new school principals can be addressed through modifications in district hiring committee practices. School district hiring committees commonly include educators and community members who understand local culture and processes but may have different beliefs about leadership. Suggested changes focus on building hiring committees' capacity to make informed and shared decisions about a new school leader by adequately resourcing hiring committee work and providing a systematic process for collecting and weighing data about candidates.

References

- Anderson, M. E. (1991). *Principals: How to train, recruit, select, induct and evaluate leaders for America's schools*. Washington, DC: ERIC Clearinghouse on Educational Management. Retrieved December 5, 2011, from <http://eric.uoregon.edu/pdf/books/principal.pdf>
- Baltzell, D., & Dentler, R. (1983). *Selecting American school principals: A sourcebook for educators*. Cambridge, MA: Abt Associates.
- Council of Chief State School Officers. (2008). *Educational leadership policy standards: ISLLC 2008*. Washington, DC: Author.
- DeAngelis, K. J., Peddle, M. T., & Trott, C. E. (with Bergeron, L.). (2002). *Teacher supply in Illinois: Evidence from the Illinois teacher study* [Policy Research Report]. Edwardsville, IL: Illinois Education Research Council. Retrieved December 5, 2011, from http://ierc.siu.edu/documents/kdReport1202_Teacher_Supply.pdf
- Educational Research Service. (2000). *The principal, keystone of a high achieving school: Attracting and keeping the leaders we need*. Arlington, VA: Author.
- Elmore, R., & Burney, D. (2000). *Leadership and learning: Principal recruitment, induction, and instructional leadership in Community School District #2, New York City*. Pittsburgh, PA: University of Pittsburgh, Learning and Research Development Center.
- Farkas, S., Johnson, J., Duffet, A., & Foleno, T. (with Foley, P.). (2001). *Trying to stay ahead of the game, superintendents and principals talk about school leadership*. New York: Public Agenda. Retrieved December 5, 2011, from http://www.publicagenda.org/files/pdf/ahead_of_the_game.pdf
- Farkas, S., Johnson, J., & Foleno, T. (with Duffett, A., & Foley, P.). (2001). *A sense of calling: Who teaches and why*. New York: Public Agenda. Retrieved December 5, 2011, from http://www.publicagenda.org/files/pdf/sense_of_calling.pdf
- Fink, D., & Brayman, C. (2006). School leadership succession and the challenges of change. *Educational Administration Quarterly*, 42(1), 62–89.
- Gates, S., Ringel, J., Santibañez, L., Ross, K., & Chung, C., (2003). *Who is leading our schools? An overview of school administrators and their careers*. Santa Monica, CA: RAND.
- Hammond, J., Muffs, M., & Sciascia, S. (2001). The leadership crisis: Is it for real? *Principal*, 8(2), 28–29, 31–32.
- Hollenbeck, G. P. (1994). *CEO selection: A street-smart review*. Greensboro, NC: Center for Creative Leadership.
- Hooker, K. (2000). Superintendents' perceptions on the recruitment and selection of building level administrators. *Planning and Change*, 31(3), 182–205.
- Lambert, L., Walker, D., Zimmerman, D., Cooper, J., Lambert, M., Gardner, M., et al. (2002). *The constructivist leaders* (2nd ed.). New York: Teachers College Press.
- Leithwood, K., Louis K. S., Anderson, S., & Wahlstrom, K. (2004). *How leadership influences student learning*. New York: The Wallace Foundation. Retrieved December 5, 2011, from <http://www.wallacefoundation.org/Knowledge-center/school-leadership/key-research/Documents/How-Leadership-Influences-Student-Learning.pdf>

- Mallory, T. (2007, January). The cost of a bad executive hire. *Relationship Economics® Newsletter*. Retrieved December 5, 2011, from <http://www.relationshipeconomics.net/newsletter/107.html>
- Muhlenbruck, T. (2001). *Through the eyes of school personnel administrators: What matters in selecting elementary school principals*. A dissertation presented to the School of Education, Drake University.
- National Association of Secondary School Principals. (2000). *The principal shortage*. Reston, VA: Author.
- The New Teacher Project. (2006). *Improved principal hiring: The New Teacher Project's findings and recommendations for urban schools*. Brooklyn, NY: Author. Retrieved December 5, 2011, from <http://www.tntp.org/files/TNTP-ImprovedPrincipalHiring-Final.pdf>
- Normore, A. H. (2004). Recruitment and selection: Meeting the leadership shortage in one large Canadian school district. *Canadian Journal of Educational Administration and Policy*, 30. Retrieved December 5, 2011, from <http://www.umanitoba.ca/publications/cjeap/articles/normore.html>
- Olson, L. (2008, April 15). Lack of school leadership seen as a global problem. *Education Week*.
- Regional Educational Laboratory Midwest. (2008). *REL Midwest task 1.1: Regional education needs analysis* (Year 2 Report). Naperville, IL: Author.
- Schlueter, K., & Walker, J. (2008). Selection of school leaders: A critical component for change. *NASSP Bulletin*, 92(1), 5–18.
- Sessa, V., Kaiser, R., Taylor, J., & Campbell, R. (1998). *Executive selection: What works and what doesn't*. Greensboro, NC: Center for Creative Leadership.
- Spanneut, G. (2007). Considering the inclusion of building tours as integral elements of school principal selection interviews. *AASA Journal of Scholarship and Practice*, 4(2), 5–12.
- Walker, D. (2002). Constructivist leadership: Standards, equity, and learning—Weaving whole cloth from multiple strands. In L. Lambert, D. Walker, D. P. Zimmerman, J. E. Cooper, M. D. Lambert, M. E. Gardner, et al. (Eds.), *The constructivist leader* (2nd ed., pp. 1–33). New York: Teachers College Press.
- Whaley, J. (Ed.) (2002). *Developing the effective principal: Hiring, evaluation and retention practices for the superintendent*. Gaithersburg, MD: Aspen Publishers, Inc.
- Whitaker, K. (2002). Principal role changes and influence on principal recruitment and selection: An international perspective. *Journal of Educational Administration*, 41(1), 37–54.



1120 East Diehl Road, Suite 200
Naperville, IL 60563-1486

800.356.2735 | 630.649.6500

www.air.org

Making Research Relevant

ABOUT AMERICAN INSTITUTES FOR RESEARCH

Established in 1946, with headquarters in Washington, D.C., American Institutes for Research (AIR) is an independent, nonpartisan, not-for-profit organization that conducts behavioral and social science research and delivers technical assistance both domestically and internationally. As one of the largest behavioral and social science research organizations in the world, AIR is committed to empowering communities and institutions with innovative solutions to the most critical challenges in education, health, workforce, and international development.

Copyright © 2012 American Institutes for Research. All rights reserved.

This work was originally produced in whole or in part with funds from the U.S. Department of Education's Fund for the Improvement of Education (FIE) Earmark Grant Awards Program under grant number U215K080187. The content does not necessarily reflect the position or policy of the Education Department, nor does mention or visual representation of trade names, commercial products, or organizations imply endorsement.