

Putting the Puzzle Pieces Together for the Whole Child:
The Research for a Strategy of Comprehensive Supports for Learning and Healthy
Development

Good governance of our public resources is essential. We entrust our public institutions such as schools and human services with programs to serve our citizens. We want them to work together, to pull in the same direction, to achieve the goals our society values: healthy children and capable citizens. Child and youth development, mental health and human services, and special and regular education leaders – all of us share these same aspirations for bringing up competent and healthy human beings.

We know now that learning is a highly sophisticated process that involves all of the domains of human development. These domains—cognitive, social, emotional, physical—are fully intertwined. Each domain is influenced and enhanced by the others, and each domain must be nurtured and supported as children grow. There is no separating a child into discrete service categories; all of us are always serving the whole child, regardless of our institutional affiliation or professional expertise.

Many different bodies of research contribute to this knowledge base about the whole child and influence what our schools and human services do. Fortunately, they corroborate one another's findings, even when they are covering the same ground from slightly different angles. Yet, too often, the specialists in each sector bring their own pieces of the puzzle to the table but do not work in an interdisciplinary fashion. Thus, operationally the puzzle pieces remain scattered and marginalized and far less useful than they could be if we put the puzzle together.

The EOHHS-Schools Initiative built its approach to school and community supports for learning and healthy child development by putting these pieces together. It sought to create the foundation for building the whole puzzle, based on:

1. The neuroscience of brain development
2. The applied research on best program practices
3. The research on risk and protective factors

I. The Neuroscience

The Science of Early Childhood Development, [National Scientific Council on the Developing Child \(www.developingchild.net\)](http://www.developingchild.net), Jack P. Shonkoff, M.D., Chair,

From the cumulative knowledge of decades of research, Council researchers have identified core principles that should underlie all public investments for children and youth:

- Brains are built over time
- The interactive influences of genes and experience literally shape the architecture of the developing brain
- Both brain architecture and developing abilities are built “from the bottom up” with simple circuits and skills providing the scaffolding for more advanced circuits and skills over time
- Cognitive, emotional, and social capabilities are inextricably intertwined through the life course
- Toxic stress in early childhood is associated with persistent effects on the nervous systems and stress hormone systems that can damage developing brain

architecture and lead to lifelong problems in learning, behavior, and both physical and mental health.

While the basic principles of neuroscience and the technology of human skill formation indicate that, for highly vulnerable children, remediation later than early childhood will produce less favorable outcomes and cost more than appropriate interventions at an early age, nevertheless positive interventions in elementary age and older children can still support their development. The research on summer learning (see below) confirms that connections among many experiences in and out of school promote young people's positive development. If we expect supports for learning and healthy development to produce better academic and social outcomes in the next generation, we must apply this research to school and community services, programs and resources, collaboratively undertaken.

II. Programmatic research

Applied program research has generated a range of best practices that bear out the neuroscience and are remarkably similar in their basic principles and approach. Together, all of them provide a foundation for systemic change to create learning supports and interventions for healthy child and youth development:

- A comprehensive student and family behavioral/mental health strategy that may blend:
 - Mental health resources, both school-employed and community agency-employed: staff develop and maintain relationships across these sectors; provide a range of services, including school-wide mental health promotion, prevention, early intervention and treatment services for youth in both general and special education; and are part of quality improvement plans
 - School-wide (and district-wide) Positive Behavior Support (PBS): school-wide systems of support founded on proactive strategies for defining, teaching, and supporting appropriate student behaviors to create positive school environments. Instead of using a patchwork of individual behavioral management plans, a continuum of positive behavior support for all students within a school is implemented.
 - Social and emotional learning, a developmental process of acquiring the skills to recognize and manage emotions, develop caring and concern for others, make responsible decisions, establish positive relationships, and handle challenging situations effectively.
 - Moderating the effects of trauma through actions to make school environments trauma-sensitive
- Physical health promotion and services, e.g., vision, hearing, and dental care, health education, nutrition and food programs, physical education and activity, through school nurses, school-based health centers and linkages with community health providers
- Out-of-school and after-school programs that build on the instructional program, support students' cognitive, social, moral, emotional, and physical development, and meet parents' needs
- Linkages with public child welfare providers to assure an appropriate, equitable, and meaningful school experience for children involved with the DSS or similarly at risk
- Active engagement with parents and community-based organizations designed to support adult literacy, English language learning, citizenship, housing, computer technology, nutrition, budgeting skills and career counseling

A. *Comprehensive student and family behavioral/mental health strategies*

i. School-based mental health (SBMH)

School Mental Health Project, UCLA (<http://smhp.psych.ucla.edu>)

Center for School Mental Health Assistance (<http://csmha.umaryland.edu/>)

National Assembly on School-Based Health Care (<http://www.nasbhc.org>)

Center for Health and Health Care in Schools (<http://www.healthinschools.org/>)

Evelyn R. Frankford, *Changing Service Systems for High-Risk Youth Using State-Level Strategies*, American Journal of Public Health, April 2007, Vol. 97, No. 4, pp. 594-599.

Evelyn R. Frankford and Jennifer Kitson, *The Power of Climate Control in Schools*, National School-Based Health Care Convention, Presentation, June 2005

Evelyn R. Frankford, Jennifer Kitson and David Osher, *Patterns of Collaboration: Safe Schools/Healthy Students and Systems of Care*, Proceedings of 18th Annual Research Conference on Children's Mental Health Service Systems, February 2005

The term "school-based mental health" encompasses many definitions, and can range from school-owned pupil personnel staff (guidance counselors, school psychologists, social workers) to non-profit mental health clinics attached or linked to schools to comprehensive approaches that work in the school, with community resources, to change the environment as well as provide individual counseling. It encompasses mental health promotion and prevention of disorders for the whole population, early intervention for groups, as well as treatment for individuals.

There has been much development in this field: Even as there has been growth in traditional clinical, one-on-one treatment, with ever more children diagnosed with "disorders," there has also been growth in a more comprehensive approach that recognizes the basic emotional, behavioral, and learning problems that most students experience. "... (V)aried policies and initiatives have emerged relevant to efforts to enhance mental health in schools. Some directly support school programs and personnel; others connect community programs and personnel with schools. As a result, most schools have some programs to address a range of mental health and psychosocial concerns (e.g., school adjustment and attendance problems, dropping out, physical and sexual abuse, substance abuse, relationship difficulties, emotional upset, delinquency, violence.) School-based and school-linked programs have been developed for purposes of early intervention, crisis intervention and prevention, treatment, and promotion of positive social and emotional development. And, available research suggests that for some youngsters schools are the main providers of mental health services." (<http://smhp.psych.ucla.edu/>)

"...mental health programs that use comprehensive, integrated approaches appear to be most effective in preventing such problems as conduct disorder, attention deficit hyperactivity disorder, and alcohol and drug abuse. Cognitive behavioral therapy, drug therapy, and community-level strategies (such as changing a teen's environment) appear to help reduce mental health disorders, including depression and anxiety. ...programs aimed at improving one aspect of teens' emotional well-being may also have positive effects on other aspects. Homes and schools that are emotionally positive and warm and that provide support for adolescents' autonomy and achievement may boost teens' psychological and emotional well-being." (Child Trends Research Brief, September 2002)

Puzzle piece: One of the bigger puzzle pieces, school-based mental health addresses the public health continuum and structural change in relationships between schools and

community agencies, but it is limited in scope to issues of mental health, even if broadly defined.

ii. Positive Behavior Supports (PBS)

Positive Behavior Support (PBS), also referred to as Positive Behavioral Interventions and Supports (PBIS), George Sugai and Rob Horner, www.PBIS.org, Implementers' Blueprint and Self-Assessment, 2005.

PBS, developed with the support of the Office of Special Education Programs of the US Department of Education, gives schools capacity-building information and technical assistance for identifying, adapting, and sustaining effective school-wide disciplinary practices. Findings from its work include:

- School environments that are positive, preventive, predictable, relevant, and effective a) are safer, healthier, and more caring; b) have enhanced learning and teaching outcomes, and c) can provide a continuum of behavior support for **all** students. (emphasis added)
- “Reducing ethnic overrepresentation is a matter of creating successful school environment for all students and accurately distinguishing disabilities from so-called cultural differences, political influences, and socio-economic factors. We must realize that the causes of low academic performance and challenging behavior do not reside solely within the child or family.” (Sugai & Horner, prepared March 27, 2006; Meyer, G. & Patton, J., 2001, in Sugai and Horner.)

The school-wide PBS approach gives priority to the establishment of systems that support the adoption and durable implementation of evidence-based practices and procedures and fit with overall school improvement practices. Although important, individual students, parents, or adults are not the primary context for systems change.

PBS is not a specific “model” but a compilation of effective practices, interventions, and systems change strategies that have a long history of empirical support. It outlines a continuum of school-wide instructional and positive behavioral support relevant to educating all students in schools, not just those with disabilities. The systems change is designed to both enhance the broad quality with which all students are living and learning and to reduce problem behaviors. It applies a three-tiered approach to prevention that matches the same public health triangle shown at the end of this review.

Puzzle piece: PBS carries out in-school systems change according to the public health model, but does not link with community resources

iii. Social and emotional learning (SEL)

Collaborative for Academic, Social and Emotional Learning (CASEL) (www.case1.org). Roger Weissberg, CASEL President, and Joseph Durlak, professor of clinical psychology at Loyola University Chicago, meta-analysis of more than 700 positive youth development, SEL, character education, and prevention interventions.

SEL is the process of developing social and emotional skills in the context of safe, caring, well-managed, and engaging learning environments, thereby contributing to students' academic success. The best SEL practice involves teaching students social and emotional skills in ways similar to teaching academic skills. These skills include the ability to recognize and manage emotions, care about and respect others, develop positive relationships, make good decisions, and behave responsibly and ethically. Reasons for teaching SEL include:

- Emotions affect how and what we learn
- Schools are social places – relationships provide the foundation for learning
- SEL is effective as a classroom management strategy
- It reduces barriers to learning
- SEL skills can be taught
- It aligns with the academic agenda of schools and has a positive impact on academic performance

Students who experience SEL participate in class more; demonstrate more pro-social behavior; have fewer absences and improved attendance; show reductions in aggression and disruptions; are on track to graduate and are less likely to drop out; and are more likely to work out their own way of learning.

School performance outcomes in students who experience SEL include improved math, literacy, and social studies skills; higher achievement test scores and grades and no decreases in standardized test scores; improved learning-to-learn skills; better problem solving and planning ability; use of higher level reasoning strategies; and improvements in reading comprehension.

Puzzle piece: SEL addresses primary mental health promotion, the bottom part of the triangle, but does not pursue systems change in schools or collaboration with community resources.

iv. Trauma

Helping Traumatized Children Learn: A Report and Policy Agenda (Massachusetts Advocates for Children, 2005) Builds on research of Masten, A.S. and Coatsworth, J.D., also van der Kolk, B.A.

The approach applies the research on treating children with complex trauma histories to provide guidance in creating school environments that increase the competence of such children and moderate the effects of the trauma. The model emphasizes three key areas: 1) build secure attachments between child and caregiver, 2) enhance child's self-regulatory capacities, and 3) increase competencies across multiple domains.

Puzzle piece: recognizes the impact of trauma on learning in a comprehensive way and provides direction to address the needs of certain children, but does not build a whole pupil support services infrastructure in collaboration with community resources.

B. Physical health promotion and services

Centers for Disease and Control

(<http://www.cdc.gov/HealthyYouth/AdolescentHealth/NationalInitiative/index.htm>)

Center for Health and Health Care in Schools (<http://www.healthinschools.org/>)

National Assembly on School-Based Health Care (<http://www.nasbhc.org>)

School health programs developed in the early 20th century as a public health response to infectious illnesses that were often transmitted by school children. In addition to employing school nurses, who carry out both linkage and direct service functions, many schools now have partnerships with school health centers. These provide access to on-site immunizations, vision and hearing screening and care, dental care, diabetes management, and emergency care, especially for children who have no other access to health care

because they are uninsured or in underserved urban or rural areas. School-based health centers (SBHCs) employ a multidisciplinary team of providers to care for the students: nurse practitioners, registered nurses, physician assistants, social workers, physicians, alcohol and drug counselors, and other health professionals. They also may provide clinical services through a qualified health provider such as a hospital, health department, or medical practice.

Research has “demonstrated that health status and health behaviors during childhood and adolescence (such as nutrition, frequent smoking, binge drinking, and marijuana use) can impact student school achievement during this time period.” (*School Achievement and Health Disparities*, Washington State Department of Health, May 2007) In addition to health behaviors, key health problems that impair learning include vision and hearing problems, asthma, respiratory and other allergies, diabetes, and infectious diseases.

Puzzle piece: recognizes the importance of good health and of capacity to respond to illness if students are to learn, and links school-owned resources with community health resources, but doesn't restructure pupil support services nor necessarily impact on other key areas.

C. *Out-of-school and after-school*

Massachusetts Afterschool Research Study (MARS), National Institute on Out of School Time (<http://www.niost.org>)

The Learning Season Commissioned by the Nellie Mae Education Foundation (www.nmefdn.org), Beth M. Miller, Ph.D., Researcher

“Ten years ago, it was enough for (afterschool programs) to provide a safe space, some time to do homework, and a variety of recreational activities...Much of the increased interest in afterschool programs has been fueled by the idea that participation can enhance children's academic achievement. However, research on direct academic effects of program participation has been mixed...On the other hand, a growing body of research suggests that afterschool programs can have positive effects on a variety of outcomes, such as motivation, engagement in learning, expectations of success, teamwork, conflict resolution, social competence, improved behavior, and leadership skills. Research indicates that children who have these “intermediary skills” do better in school and are more successful as adults. (MARS)

“Children in all socioeconomic groups are learning at nearly the same rate, at least when it comes to basic skills, during the school year...differences in achievement between poor and middle class children are rooted in the inequities that young people experience outside the schoolhouse door.” Summer learning loss, as measured by test-score gaps between middle and lower-income students, is profound. Lack of access to opportunities and resources outside of the classroom, particularly in the summer months, may explain much of the low-income and racial gap in test scores. (Miller)

Puzzle piece: Out-of-school time programs, including afterschool, provide a substantial component that is too often thought of as an “add-on” or a “babysitting service,” rather than as a key element of learning supports and strategies to promote positive development. While it is rarely integrated with in-school systems changes, it provides a puzzle border: it impacts most of the other pieces and can hold them together.

D. Linkages with child welfare

Casey Family Programs, *A Road Map for Learning: Improving Educational Outcomes in Foster Care* (2004) <http://www.casey.org/Resources/Publications/RoadMapForLearning.htm>

Creating Opportunities for Stable, Secure, and Nurturing School Environments for DSS-Involved Children: The School and Community Support Project, Massachusetts Department of Social Services June, 2005 and June, 2006

Education outcomes for children in the child welfare system are historically poor. For youth in out-of-home care, education has the potential to be a positive counterweight to abuse, neglect, separation, and impermanence. Positive school experiences enhance their well-being, help them make more successful transitions to adulthood, and increase their chances for personal fulfillment and economic self-sufficiency, as well as their ability to contribute to society...School "connectedness" has been found to be a protective factor against every health risk except pregnancy.

Pecora et al identify four key areas of critical support for youth in the child welfare system:

- ◆ Access to effective health and mental health programs
- ◆ Placement stability
- ◆ Comprehensive, responsive educational programs
- ◆ More effective independent living preparation programs

The June 2004 School and Community Support Project annual report recommends that "existing sites should conceptualize and implement a more comprehensive system of prevention," noting that providing individualized support to children and teachers does not include a preventative component. The report recommends a three-tiered model of intervention and support for all children with behavioral challenges: primary prevention for all children, secondary prevention directed at children who evidence behavioral or academic vulnerability and tertiary prevention directed at children who evidence ongoing, chronic problems that matches the Initiative Triangle.

Puzzle piece: recognizes the special learning needs of children in foster care and makes the case for addressing the needs of certain children but does not build three-tiered pupil support services infrastructure in collaboration with community resources.

E. Family Engagement

Southeast Educational Development Laboratory: *A New Wave of Evidence: The Impact of School, Family, and Community Connections on Student Achievement*, Annual Synthesis 2002, (www.sedl.org/connections) Anne T. Henderson and Karen L. Mapp

This document, and more recent versions, summarizes research studies on family involvement in education: "When schools, families, and community groups work together to support learning, children tend to do better in school, stay in school longer, and like school more." Many studies found that students with involved parents, no matter what their income or background, were more likely to:

- Earn higher grades and test scores, and enroll in higher-level programs
- Be promoted, pass their classes, and earn credits
- Attend school regularly
- Have better social skills, show improved behavior, and adapt well to school
- Graduate and go on to postsecondary education

Puzzle Piece: Involving parents/families improves academic achievement and positive youth development but doesn't change the alignment of school and community resources to the three-tiered model.

III. Community Schools

Joy G. Dryfoos and Carol Barkin, *Adolescence: Growing Up in America Today*, Oxford, 2006.

Joy G. Dryfoos, Jane Quinn, and Carol Barkin, *Community Schools in Action: Lessons from a Decade of Practice*, Oxford, 2005.

Joy G. Dryfoos, *Adolescents at Risk*, Oxford, 1991.

Coalition for Community Schools: Making the Difference: Research and Practice in Community Schools, May 2003, <http://www.communityschools.org/>

“A community school is both a place and a set of partnerships between the school and other community resources. Its integrated focus on academics, health and social services, youth and community development and community engagement leads to improved student learning, stronger families and healthier communities. Schools become centers of the community and are open to everyone – all day, every day, evenings and weekends. Using public schools as hubs, community schools bring together many partners to offer a range of supports and opportunities to children, youth, families and communities.”

Community schools embrace child and youth development through parent involvement, after-school enrichment, individual attention, building social capital, and integration of services. What distinguishes these schools is that they are operated through partnership agreements of public schools and community agencies. In a fully developed community school, the school building is teeming with activity. Parents are involved everywhere and are encouraged to “hang out” in resource rooms. Many have begun through afterschool activities and have expanded to include connections with health centers and other community resources.

Research has shown that community schools provide learning opportunities that develop both academic and nonacademic competencies, that students in such schools show improvement in academic achievement and attendance, and that parents felt their child's behavior had improved.

Puzzle piece: Community schools are a major tested strategy for creating essential partnerships with community agencies to improve academic achievement and youth development. They show how social services, mental health, health, and many other kinds of resources can be integrally connected to education. But, by themselves, they don't realign school- and community-owned pupil and family support resources into preventive and early interventions. Being subject to funding vagaries, the sustainability challenge is always present.

IV. Risk and Protective factors

Greenberg, Domitrovich, & Bumbarger (1999), *Preventing Mental Disorders in School-Age Children: A Review of the Effectiveness of Prevention Programs*. Rockville, MD: Center for Mental Health Services.

Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2002). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *Prevention & Treatment*, 5, Article 15. Available online at journals.apa.org/prevention/volume5/pre0050015a.html.

Risk and protective factor theory posits that the greater the number of risk factors that exist for a child or adolescent, the greater the likelihood that youth will abuse substances, develop

a mental health problem, or experience other serious problems at some point in his/her life. All of these may lead to school failure as well. Risk factors stem from individual, the family, school, peers, and community and neighborhood factors. (See Dryfoos, *Adolescence: Growing up in America Today*, p. 72-73 for one set)

Emotional and behavioral problems, social problems, and health risk behaviors often co-occur; substance abuse and mental health problems are likely just two of the potential problem areas that at-risk adolescents face. The risk factors for these are similar to those for other problems such as delinquency, school dropout, violence and other behavioral and mental health problems. Therefore, effective programs targeting a specific problem behavior are likely to address a spectrum of related problems. "The tendency for problem behaviors to co-occur is one of the most common findings in studies of adolescent development..." (Dryfoos).

Protective factors include, among others:

- Child's cognitive and social skills
- Interactions with the environment:
 - Secure attachments to parents
 - Attachments to peers and other adults with pro-social values
- School-home relations and quality schools
 - Connectedness to school
 - Good school climate

Puzzle piece: Framing interventions through risk and protective factors provides a tool to examine and redesign current services and resources into more effective infrastructure that promotes child and youth development.

V. Implications

There is urgency to putting these puzzle pieces together to assemble the full picture:

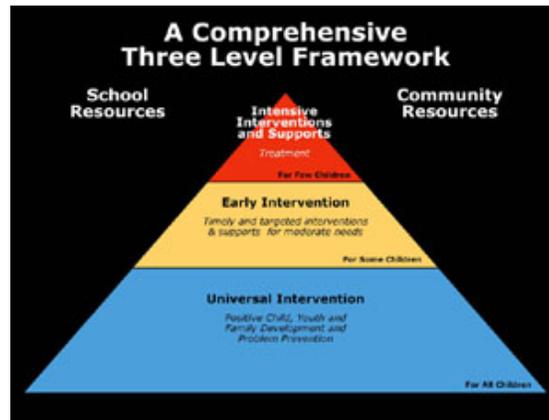
- Gaps in academic performance undermine America's and Massachusetts' economic productivity
- Drop-outs in low-income and urban areas and among African-American and Hispanic communities in Massachusetts are almost 20% greater than in the population at large, handicapping a substantial portion of the population
- Pressure on special education as the sole resource for children with challenges is too great and its ability to serve its intended population may be harmed
- Pressure on the education system generally is great and it is unable to foot the entire bill for child and youth development as well as remedial interventions, without the collaboration of state and community health, mental health, and human services agencies

The Massachusetts EOHHS-Schools Initiative has funded small experiments in urban school districts and Educational Collaboratives to begin to put the puzzle pieces together for the whole child. By mapping all available current school, state, community resources and then redesigning how they fit together, we hoped to establish a framework for a comprehensive learning support and child development function. This framework is based on a widely used public health model that differentiates three basic levels of interventions:

- positive child, youth, and family development as well as prevention of problems, for **all** children, for example, bullying and violence prevention, enrichment programs, transition supports, parent support, before and after-school programs, public health

and safety programs, mentoring, improving the physical environment of the school, strengthening connections between schools and families;

- early intervention for **some** children, timely and targeted interventions and supports for moderate mental health and behavioral needs and situational stresses, for example, learning and behavior accommodations, behavioral support plans, short-term counseling, therapeutic after-school, health services for specific conditions;



- intensive interventions and supports covers more intense and sustained services, including access to individualized and systems of care, for a **few** children, those with serious emotional and behavioral challenges, for example, intensive special education, mental health treatment.

Implementing this framework would improve school climate and connectedness. According to Sugai and Horner, a school climate that relies on proactive approaches that teach socially acceptable behaviors rather than on punishing challenging behaviors, has a positive impact on academic achievement. When comprehensive school and community learning supports buttress instruction, education can be a major protective factor, especially for children facing major risks. The better the connections are among home, school, and community, the better are the chances for youth success in school and in life. Schools can be both a haven for distressed kids and a “ticket out” of difficult life circumstances, promoting competence and counteracting the impact of trauma, discrimination, poverty and financial stress, fear for safety, and untreated health problems.

Adelman and Taylor provide direction to overcome the current fragmentation of resources: create a “three-component” school infrastructure to collaborate with external resources:

- ◆ Instruction and Curriculum: Direct Facilitation of Learning
- ◆ Governance and Resource Management
- ◆ Comprehensive learning supports that build from primary prevention.

When blended with the “extended school” concept of Community Schools, a foundation is established for building a shared agenda among educators, mental health and human services providers, community-based organizations, and families to improve child/youth outcomes and allocate scarce human and fiscal resources more rationally and effectively.

Building such a framework has two intersecting tasks:

- A structural task: build the infrastructure and systems for support services to overcome barriers to learning and promote healthy development through collaboration with state

and community agencies by integrating the plethora of programs and resources that have good intentions but no common focus on improving student outcomes and behaviors.

- A knowledge development task: with infrastructure in place, improve the skills and knowledge of the people delivering the programs and services to overcome the current “train and hope” approach, in which experts are brought in to solve problems encountered and trainings are endlessly provided. Inevitably, the trainers leave behind a school or a social service agency to implement a solution for which they have no capacity and which they cannot sustain (Stokes and Baer, 1977, in Sugai and Horner, School-wide Positive Behavior Support).

The joint priority for school, services, and community leaders should be to build infrastructure that actively supports the function of addressing and overcoming barriers to student learning and promotes healthy child development, that is, a “whole child” approach. (Adelman and Taylor, *The School Leader’s Guide to Student Learning Supports: New Directions for Addressing Barriers to Learning*, Sage Publications, Corwin Press, January 2006)

With all the knowledge scattered about in tiny, underfunded program pieces, it is surely a great shame to jeopardize our children’s futures because we have failed to develop the governance structures to pull the puzzle together to provide the full range of interventions for children’s learning and healthy development. Good governance and stewardship of our nation’s resources demands no less than our completing the puzzle from the existing fragments. The pay-off for this effort will be young people who can achieve academically and then economically, as well as live as good citizens.

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