

INDIANA'S EDUCATION
ROUNDTABLE

Indiana's P-16 Plan for
Improving Student Achievement

Phase I

Adopted October 28, 2003

Page Index

- The Need and Purpose.....2
- Ten Key Components and Background.....3
- Education Roundtable Members.....4
- Academic Standards, Assessment, and Accountability.....5
- Teaching and Learning.....6
- School and District Leadership and Governance.....8
- Early Learning and School Readiness.....9
- Eliminating Achievement Gaps and
Ensuring Academic Progress for All Students.....12
- Ensuring College and Workforce Success.....15
- Drop Out Prevention.....17
- Higher Education and Continued Learning.....19
- Communication.....22
- Effective Use of Technology and Efficient Use of Resources.....23
- References.....25

Indiana's P-16 Plan for Improving Student Achievement

The Need

The world in which we live has become increasingly complex and interconnected. Advances in technology, science, and communication are occurring at an unprecedented pace. Our children, and the generations of children to follow, will need far more knowledge and skill than ever before to make sense of the world around them, to make reasoned judgments about their lives, and to contribute to society. The extent to which they develop the knowledge and the skills they need will heavily impact their futures and their ability to earn a wage adequate to support a family.

This issue reaches beyond individual needs to encompass the future of our state. A highly skilled, technologically literate workforce is essential to growing new jobs in business and industry, generating increased personal income, and creating an overall better quality of life for all Hoosiers. Now more than ever, Indiana's economic vitality depends on an educated workforce.

These combined realities require an education system where we must expect the vast majority of students to successfully complete education beyond high school. Even those students who go directly to work after high school will need additional training and education at some point in their working lives.

Providing all children with the academic foundation they need to navigate such a world is the basis of the Education Roundtable's P-16 Plan for Improving Student Achievement. Each education sector has an important part to play in ensuring all students succeed as they progress. This success will only be realized if Indiana's entire education system (from the early days of a child's life, through early childhood education, elementary school, middle school, high school, and college) is geared to prepare and enable all students to achieve at high levels.

The Purpose

Aligning efforts across Indiana's education sectors – pre-Kindergarten, K-12, and higher education – is essential if our state's education system is to meet its primary purpose of providing every student with the preparation they need to be active and productive citizens. The P-16 Plan builds on progress made to date and is consistent with actions called for in P.L. 146-1999, P.L. 221-1999, and the federal Elementary and Secondary Education Act – *The No Child Left Behind Act of 2001* (NCLB).

The plan's development will move forward in the following phases:

- Phase I – Strategic framework outlining the steps that need to be taken
- Phase II – Implementation details

In crafting the P-16 Plan, the Education Roundtable is fully aware of the difficult financial circumstances facing our state, our schools, our colleges and universities, our local communities, and our citizens. Faced with these challenges, some may have concerns about the breadth and anticipated costs of steps outlined in the P-16 Plan. The Roundtable believes that lack of money should not be an excuse for a lack of strategic planning. It is imperative that Indiana have a strategic plan for improving student achievement. The plan should not be just a list of good ideas – but a highly focused framework to guide the state. To implement this strategic plan, it will be necessary to evaluate current expenditures, realize efficiencies, leverage resources, prioritize strategies, and make critical investments to bring about the student achievement outcomes the state desires.

As required by the General Assembly, an analysis of the fiscal impact of recommendations made by the Education Roundtable in the P-16 Plan will be outlined and included in Phase II – Implementation details before the entire P-16 Plan is presented to the Governor, General Assembly, State Board of Education and other deliberating bodies.

Ten Key Components

The P-16 Plan is built around the following key components:

- Academic Standards, Assessment, and Accountability
- Teaching and Learning
- School and District Leadership and Governance
- Early Learning and School Readiness
- Eliminating Achievement Gaps and Ensuring Academic Progress for All Students
- Ensuring College and Workforce Success
- Drop Out Prevention
- Higher Education and Continued Learning
- Communication
- Effective Use of Technology and Efficient Use of Resources

Background

The Education Roundtable was formed in 1998 by Governor Frank O'Bannon and Superintendent of Public Instruction Dr. Suellen Reed. The Roundtable is a committed group of diverse stakeholders including key leaders from K-12 and higher education, business, industry and labor, parents and community, and the Indiana General Assembly. Their purpose is to focus collectively on critical issues in education and to set and maintain a vision for educational change and student success in Indiana.

Formalized by legislation in 1999, the group was charged with making recommendations on improving student achievement. Over the past four years, Indiana's Education Roundtable has focused diligently on this challenge. Their work in conjunction with the Indiana State Board of Education has produced results.

Indiana's academic standards have been raised and are now among the very best in the nation. More rigorous statewide assessments and passing scores to measure student achievement against the standards have been put in place. Targeted resources to assist teachers with aligning instruction to the new standards have been developed and distributed. And, a new system for holding schools accountable for continuous improvement has been adopted.

With these key improvement pieces in place, the Roundtable turned its collective attention to ensuring all students succeed at every level. To inform their work on a comprehensive P-16 plan, the Education Roundtable sought advice from local, state and national experts, researched best practices, reviewed state and national data, sought stakeholder and public input, and rigorously discussed issues, policies and strategies – with the underlying premise that if P-16 educators, business and community leaders, parents, and policymakers agree on fundamental substantive issues and strategies, Indiana will be able to make real progress.

Governor O'Bannon believed that the most important work we could be doing was work focused on improving the lives of Indiana's children. For the past five years, in partnership with Dr. Reed, he led the Education Roundtable in this work - bringing people together, focusing on critical challenges, and forging a common vision and plan for providing every Hoosier child with a world class education. When Lt. Governor Joe Kernan assumed the role of Governor following Governor O'Bannon's death, he too committed to improving education in Indiana and to carrying on the important efforts of the Education Roundtable.

Indiana's P-16 Plan for Improving Student Achievement encompasses the research, deliberation, thoughts, and hard work of many Hoosiers who care greatly about the education and success of our students.

Members serving on Indiana's Education Roundtable in 2002 and 2003 include:

Governor Frank O'Bannon – Co-Chair 1998 - 2003

Governor Joseph Kernan – Co-Chair

Dr. Suellen Reed, Superintendent of Public Instruction – Co-Chair

Mr. Kent Adams – Member, Indiana State Senate

Dr. Phyllis Amick – Past President, Indiana Association of Public School Superintendents

Ms. Connie Blackketter – Member, State Board of Education

Ms. Judy Briganti – President, Indiana State Teachers Association

Mr. Kevin Brinegar – President, Indiana Chamber of Commerce

Ms. Victoria Candelaria – Past President, Indiana Federation of Teachers

Mr. Micah Clark – Director, American Family Association of Indiana

Ms. Christel DeHaan – President and Founder, Christel DeHaan Family Foundation

Dr. Otto Doering – Professor, Purdue University

Mr. Michael Downham – Past President, Indiana School Boards Association

Ms. Barbara Eager – Past President, Indiana Parent Teacher Association

Mr. Stephen Ferguson – CEO, Cook Group, Inc.

Mr. Jerry Funkhouser – President, Indiana Association of School Principals

Dr. Hans Giesecke – President, Independent Colleges of Indiana

Mr. David Goodrich – President and CEO, Central Indiana Corporate Partnership

Dr. Arthur Hansen – Past Member, Indiana Commission for Higher Education and Past President, Purdue

Mr. Grant Hawkins – Judge, Marion County Superior Court

Mr. Patrick Kiely – President and CEO, Indiana Manufacturers Association

Mr. Robert Lazard – Member, State Board of Education

Ms. Mickey Lentz – Vice President, Indiana Nonpublic Education Association

Mr. Al Logsdon – Member, Indiana Association of School Principals

Ms. Teresa Lubbers – Member, Senate Education Committee

Mr. Anthony Maidenberg – Vice President, Independent Colleges of Indiana

Mr. Robert Marra – Associate Superintendent for Exceptional Children, Indiana Department of Education

Mr. Tom McKaig – President, Indiana Association of Public School Superintendents

Dr. John Moore – President Emeritus, Indiana State University

Ms. Marilyn Moran-Townsend – CEO, CVC Communications

Mr. Rick Muir – President, Indiana Federation of Teachers

Mr. John Myrland – President, Indianapolis Chamber of Commerce

Mr. Greg Porter – Chair, House Education Committee

Mr. Benjamin Ramsey – Executive Director, Indiana State Building and Construction Trades Council

Dr. Daniel Reagan – Past Vice President, American Association of University Professors

Ms. Earline Rogers – Member, Senate Education Committee

Ms. Sue Scholer – Member, House Education Committee

Mr. David Shane – President and COO, LDI, Ltd. and President, CLASS

Mr. Daniel Tanoos – Member, State Board of Education

Ms. Joyce Wehneman – Member, Indiana Professional Standards Board

Dr. Eugene White – Superintendent, Washington Township Schools

Ms. Mary Williams – President, Indiana Parent Teacher Association

Academic Standards, Assessment, and Accountability

Indiana has established a strong foundation for improving student achievement. The state's common sense approach includes:

- *Clear and challenging K-12 academic standards* in English/language arts, mathematics, science and social studies. Developed by Indiana educators, business and community leaders and parents, and benchmarked to ensure they are as rigorous as any in the country, Indiana's academic standards spell out what students are expected to know and be able to do as they advance through school. Ranked among the very best in the country, these standards help schools and communities ensure that students learn the skills and knowledge they need to pursue their future interests successfully.¹
- *Statewide assessments that measure whether students are meeting the standards.* The Indiana Statewide Test of Educational Progress (ISTEP+) measures student performance annually grade 3 through 10 in reading, writing, and mathematics, with science and social studies to be added.
- *Accountability for what really matters: student learning.* Schools are expected to continue to improve, and students are expected to show they can meet the standards as they move grade-to-grade and before they graduate. Indiana law provided the framework for the state's rigorous, but fair, system of holding schools accountable for student learning and providing rewards, sanctions and assistance accordingly.

Academic Standards, Assessment, and Accountability

Next steps to improve student achievement:

1. Ensure that Indiana's academic standards, assessments, and accountability system remain among the best in the nation through scheduled review and national benchmarking.
2. Align K-12 curriculum, instruction, and high school requirements with college and workforce expectations and clearly communicate these expectations to students, parents, and educators.
3. Provide teachers with tools to more frequently measure student progress toward meeting Indiana's standards.
4. Link and report data electronically across P-16 systems to inform the systems in ways that improve student achievement, by enabling:
 - Teachers to challenge all students to achieve at high levels and to identify and address learning gaps.
 - Educators to identify and share promising practices in teaching.
 - School leaders to assess the performance of their school in terms of later success of its students.
 - Postsecondary leaders and faculty to assess the performance of their institution in terms of later success of its students, including their effectiveness in preparing teachers and school leaders.
 - Policymakers to assess system-wide performance in order to find paths for improvement.
 - Parents to access student, K-12 school, and higher education data allowing them to be active partners in improving learning.
5. Implement an accountability system and public report card for the state's higher education sector and for state-supported workforce training programs.

Teaching and Learning

The quality of the teacher in the classroom is perhaps the most important factor in increasing student learning. Studies show that students who have several strong teachers in a row will thrive no matter what their family background. Conversely, students who have just three consecutive weak teachers will perform poorly. Indiana must do more to ensure that every student has a highly qualified and effective teacher.^{2,3}

Indiana is fortunate to have an experienced teaching force. More than 60 percent of the state's teachers have been in the classroom for 10 years or more.⁴ While this experience is valued, 21st century demands of teachers require more critical ability to manage the process of accessing and teaching students in more personalized ways. Teachers must be able to differentiate instruction for all learners in their classrooms.

The 2001 Indiana General Assembly, at the request of the Governor and Superintendent of Public Instruction, made the first significant commitment to professional development by appropriating \$16.5 million dollars to support the state's standards and accountability reform efforts for public and accredited, non-public schools. Additionally, the state has developed and distributed standards resources to assist K-8 teachers in aligning curriculum and instruction to Indiana's new academic standards. High school standards resources will be distributed winter 2003. These initial investments must be followed by an ongoing commitment to targeted, high quality professional development.

Continuing to improve the preparation of new teachers is extremely important. Approximately 3,000 new teachers enter Indiana classrooms every year. Indiana colleges and universities prepare a significant majority of these teachers in 40 accredited teacher preparation programs across the state.⁵

Although the state produces a steady stream of new teachers, Indiana schools continue to experience a shortage of qualified teachers in specific content areas and specific schools. Special education constitutes over 80 percent of the shortage, followed by shortages in mathematics and science. Consistent with national trends, the percentage of teachers without full certification is highest in high-poverty districts in the state.

In an effort to address the shortage of teachers in these high need areas and attract professionals from other areas who would be effective in the classroom, the Indiana General Assembly established the Transition to Teaching program in 2001. This law requires all teacher preparation programs to develop and implement rigorous programs that provide an alternative route to licensing and makes it quicker for qualified professionals in other fields to change careers to teaching.

Indiana has made progress in improving teacher licensure. Rules for teacher licensure and renewal are aligned with the state's academic standards and school improvement plans. Indiana ranks among the top states whose teachers are fully licensed and not teaching on waivers and has been nationally recognized for the high percentage of core academic classes taught by teachers who are fully licensed in the areas in which they are teaching.

Teaching and Learning

Next steps to improve student achievement:

Ensure that every student has a highly qualified and effective teacher.

1. Recruitment:

- Promote teaching as a profession that is valued and expand efforts to recruit high quality candidates into teaching.
- Implement targeted recruitment strategies to attract African American and Latino candidates.
- Adopt targeted strategies to increase the number of highly qualified teachers in high-poverty and hard-to-staff schools.

- Review the quality, availability, enrollment, and success of university Transition to Teaching Programs, giving particular attention to the state’s shortage of qualified special education, mathematics, and science teachers.

2. *Preparation, Licensure, Compensation, and Retention:*

- Strengthen teacher preparation and licensure through greater integration of subject matter knowledge and instructional expertise.
- Ensure that all new teachers have training in effective classroom assessment practices, analysis of student performance data, recognition of exceptional learners, and modification of curriculum and instruction to meet differentiated student needs.
- Ensure that all elementary and middle school teachers are skilled in teaching reading and reading comprehension.
- Ensure that teachers have technology skills that enable them to be more effective.
- Ensure teachers understand the importance of parents as partners in student learning and are provided with techniques for effective parent communication and engagement.
- Ensure that special education teachers are well prepared to teach the content areas.
- Ensure that Indiana’s standards for teacher licensure effectively provide the subject matter knowledge and instructional expertise that fully prepare teachers to teach Indiana students to learn and achieve Indiana’s academic standards.
- Ensure alignment of compensation system with teacher relicensure requirements and place additional emphasis on quality professional development.
- Implement strategies to retain high quality teachers.

3. *Professional Development:*

- Provide teachers with professional development and time to align curriculum, instruction and assessment and to coordinate instructional plans and strategies with other professional and paraprofessional staff to assist students in meeting academic standards.
- Provide teachers with computer/technology tools and training to bring about increased student achievement. Enable teachers to use technology to improve communication with parents and to increase interaction with other teachers for the exchange of best practices and resources.
- Provide current middle and high school teachers with targeted resources and professional development to support high quality instruction in Core 40 courses.
- Provide teachers with professional development for successfully involving parents and families as partners supporting student academic achievement.
- Ensure professional development funding and practices are deliberate, effective, aligned with Indiana’s academic standards and school improvement plans, and consistent with the State Board’s standards for professional development.
- Make research on scientifically sound instructional practices available to classroom teachers, school leaders, and teacher preparation faculty.

School and District Leadership and Governance

All schools and districts need leaders with the skills, support, and authority to drive improvement. Effective school leaders are no longer merely managers but are leaders responsible for creating a culture for successful learning. They must ensure students are provided with a safe and supportive learning environment; motivate, challenge, mentor, and inspire teachers in their work; provide ongoing support and staff development; use data to continually assess the strengths and weaknesses of classroom instruction in their school; and engage parents and community members to make certain that students receive the best education possible.

Indiana has identified standards and revised licensure requirements for school administrators under the Indiana Professional Standards Board's new *Rules 2002*. Under these rules, all first-time administrator candidates must hold a proficient practitioner teaching license, participate in a two-year mentoring-plus-portfolio assessment, and take a standardized licensure test.

The Indiana Principal Leadership Academy (IPLA), created by the General Assembly in 1985, has focused on improving the effectiveness of school leaders. In addition, the Indiana Association of Public School Superintendents, Indiana Association of School Principals, Indiana School Boards Association, Indiana Promise Consortium, Indiana Nonpublic Education Association, Center of Excellence in Leadership of Learning (CELL), Indiana NEXT, and universities across the state are working both individually and collaboratively to improve school leadership.

In Indiana, local school systems are governed by school board members elected by voters or appointed by other public officials. The Indiana School Boards Association has worked to provide school board members with expertise in effective school governance for improved student achievement.

School and District Leadership and Governance

Next steps to improve student achievement:

1. Develop strategies to recruit and retain high quality school leaders, including targeted efforts for women and minorities, and incentives to work in high-poverty, low-achievement schools and districts.
2. Provide professional development training for building and district leaders and school board members focused on instructional leadership and best practices for improving student achievement and maximizing the impact of resources and student instructional time.
3. Provide professional development for building and district leaders and school board members focused on engaging and working with parents and community to improve student achievement. Identify standards for effective parent and community involvement and provide tools to assist schools in assessing this involvement.
4. Align professional development and the performance-based option for license renewal with Indiana's academic standards and local school improvement plans.
5. Strengthen administrator preparation programs. Ensure preparation includes best practices for improving student achievement, effective data analysis, technology utilization, and optimizing resources and instructional time. To ensure administrator preparation programs keep pace with the growing demands of the practicing profession, expect programs to work closely with local school districts.
6. Encourage continued collaboration between organizations focused on improving school leadership.

Early Learning and School Readiness

Parents are, and always will be, their children's first and most important teachers. Brain research has established that the way the human brain develops during the first years of life has a significant impact on later learning and intellectual growth. Scientific evidence supports a clear and compelling connection between the quality of a child's early learning experiences and later success in school and life.

Parents deserve to have the latest information on what they can do to promote healthy brain development in their infants and children. They must be supported in their efforts to provide the best quality care and learning opportunities for their children.

Indiana has implemented several initiatives to help children get the start they need to excel in school and grow up to be confident, caring, and contributing adults. *A list outlining many of these initiatives will be included in the Appendices of the P-16 Plan - Phase II.* While programs appear to be numerous, Indiana lacks a statewide coordinating body to facilitate planning and partnership efforts and to advocate ways to address the needs of Indiana's children birth to age six.

More than 500,000 children under the age of six live in our state. Three out of five of these children spend some or all of their day being cared for by someone other than a parent. In 2000, 62 percent of Indiana families with children under the age of six had both parents in the workforce.⁶ This number has been consistent for the last decade.

Quality child care is an issue that affects a broad cross section of our citizens. Many parents struggle to find and afford quality programs for their children. In Indiana, the average annual cost of child care for a four-year-old in a center is \$4,732. In 2002, there were 12,068 Indiana children on the waiting list for child care subsidies.⁷ The National Education Goals Panel reports that in 1996, only 45% of 3- to 5- year olds from low-income families enrolled in preschool programs. This is in contrast to almost three quarters of children from high-income families that participated in preschool programs. Childcare and education cannot be thought of as separate entities.

High quality early childhood education is a good economic investment. Research shows that for every government dollar invested in high-quality, comprehensive early care and education, society saves \$7.16 in welfare, special education, and criminal justice costs.^{8,9} Children who have participated in high-quality pre-Kindergarten programs demonstrate higher math and reading scores, stronger learning skills, increased creativity, better school attendance, improved health, and greater involvement by parents in elementary school. These children are less likely to drop out of school, less likely to repeat grades, less likely to need special education, and less likely to get into trouble with the law. Investments in early care and education save money in the long-run and provide children with more and better opportunities for success in life.

Conversely, children who do not receive the early learning experiences they need typically arrive at Kindergarten lagging behind their classmates in what they know and are able to do.^{10,11} Chances of success with these children already are diminished while the cost of interventions designed to reverse a poor start steadily increase over time.

Scientific evidence shows that the quality of a young child's environment and social experiences lays the groundwork for success in school and has decisive impact on the rest of the child's life.^{12,13} This knowledge translates into an opportunity for Indiana policymakers to realize the interdependence and common goals of parents, childcare providers, preschool, elementary, secondary, and postsecondary education.

Next steps to improve student achievement:

1. Involve parents in planning and implementation of all early learning and school readiness efforts.
2. Provide parents, pediatricians, and others who work with children with information regarding cognitive (brain) development and the importance of reading to infants and children.
3. Guarantee access to appropriate health screenings and high-quality developmental checkups for all children birth to age 7.
 - Advocate that pediatricians check every child with good screening instruments regularly throughout the preschool years so that problems can be identified and addressed early.
 - Train parents, child care workers, and others to use parent-based screening tools to flag potential developmental problems and provide guidance to effective interventions.
 - Facilitate efforts to address the over-subscription of African American children to special education.
4. Focus on reading.
 - Provide parents with information on what they can do to help their children become good readers.
 - Identify and promote family and community literacy efforts.
 - Provide professional development and training to help early care, preschool, and primary teachers master effective research-based reading strategies designed to make sure all children can read at grade-level by the end of grade 3.
 - Provide reading specialists at all primary grade levels to assist with reading instruction.
 - Provide formative reading assessments throughout the primary grades.
 - Provide immediate additional assistance to students with identified needs and to students not expected to be reading at grade level.
5. Make sure every child has access to high quality programs that help prepare them for school.
 - Make voluntary preschool available for children academically at-risk.
 - Provide appropriate professional development and training to help early care and preschool teachers master effective research-based reading strategies.
 - Provide professional development and training to help early care and preschool teachers effectively work with and engage parents in early learning and school readiness efforts.
 - Provide parents with information and training to support their student's learning and to strengthen school involvement skills.
 - Ensure that a system is in place in each community to facilitate a child's transition from pre-school to formal school experience.
6. Ask Indiana employers to invest in the state's future workforce by providing or partnering to provide high-quality child care options for employees.
 - Find incentives for employers to offer high quality child care.
7. Make high quality Kindergarten available for all children.
 - Support full-day Kindergarten for all children.
 - Make Kindergarten attendance mandatory.
 - Provide Hoosier children with the same advantage children across the country receive by making the statewide age for Kindergarten entry comparable with other states.

8. Establish an Early Learning and School Readiness Commission for coordinating birth to age six early learning and school readiness experiences, giving greater priority to children and family issues, and working to increase the efficiency and effectiveness of programs that serve children and families.
 - Build on successful initiatives currently in place to integrate early childhood services and expand collaborative partnerships with business, education, human services, health, mental health, and others to support early learning.
 - Measure results of early learning and school readiness strategies over time to promote strategic planning and collaboration within government, as well as between government and communities.

Eliminating Achievement Gaps and Ensuring Academic Progress for All Students

The achievement gap that separates low-income and minority students from their peers is unacceptable. Data shows that gaps in achievement exist at every level in our education system – from the early years through college completion. Research shows that these gaps can be overcome.^{14,15,16}

Regardless of socioeconomic status or family background, students succeed if they have a series of several good teachers, and they learn far more and fail less often in rigorous courses than they do in low-level remedial courses.^{17,18,19,20} Studies demonstrate that poor and minority students will achieve at the same high levels as other students if they are taught to those levels.²¹ A clear relationship exists between low standards, low-level curriculum, under-educated teachers, and poor results.

While we know that students can handle rigorous curriculum and should be given that opportunity, not all students learn in the same ways and on the same schedule. Some students need more time, extra support, and differentiated instructional methods in order to reach high standards. Policies and programs must be in place to meet these needs.

Schools and districts across the state and country that are eliminating gaps in achievement share four key characteristics:

- Focus – clear and consistent goals, strategies, and leadership;
- Rigorous curriculum – clearly defined high expectations of what students should be learning and when it should be learned;
- Good teaching; and
- Necessary interventions.

Indiana has made more progress than other states at closing achievement gaps as demonstrated on the National Assessment of Educational Progress (NAEP), but more work must be done if these gaps are to be eliminated. Several groups including the Indiana Education Roundtable, Indiana General Assembly Interim Study Committee on Education Issues, National Black Caucus of State Legislators (NBCSL), Indiana Consortium to Eliminate Achievement Gaps, Indiana Department of Education, Indiana Student Achievement Institute, Indiana Principal Leadership Academy, Indiana Association of Public School Superintendents, Indiana Association of School Principals, Indiana School Boards Association, the Indiana State Teachers Association, Indiana Urban Schools Association, Indiana Nonpublic Education Association, Council of Volunteers for Hoosiers with Disabilities, and others are working on this important challenge.

Studies document a wide gap between lower- and higher- income children before they enter Kindergarten. When children begin school behind, they tend to fall further and further behind. High-quality early childhood education can help close this gap. The school readiness skills gained in early childhood go well beyond the transition to Kindergarten. They provide the foundational skills for the child's success in life.

The Business Roundtable (BRT), a national group of chief executives, is calling on state and federal governments to focus on ensuring children enter school ready and able to succeed by rethinking the way early-childhood education and funding is provided. The BRT supports early intervention as the way to narrow the gap in achievement between students from lower- and higher-income families. High-quality early care and learning experiences have been proven to have positive effects on the intellectual and language skills of children and help develop basic cognitive skills (language and math) and classroom behavioral skills (attention, sociability, peer relations, and self-management). These skills are critical to later academic performance and school success.

Eliminating the achievement gap in Indiana does not mean lowering the achievement of top performers. Indiana's P-16 plan seeks to raise the achievement level of all students. Strategies designed to monitor student performance at key transition points (elementary to middle school, middle school to high school, high school to higher education) and challenge Indiana's highest performing students to reach their full potential are identified in the *Ensuring College and Workforce Success* section of this plan.

Addressing the achievement gap that separates special education students from other students also is important. In order to understand and work to close this gap between special education and the general population, data need to be disaggregated by disability type with strategies implemented as appropriate.

Eliminating Achievement Gaps and Ensuring Academic Progress for All Students

Next steps to improve student achievement:

1. Equip school leaders, teachers, and parents with data and research to dispel achievement gap myths and shed light on the damaging practice of expecting less of poor and minority students.
2. Invest in early learning, school readiness, and reading as outlined in *Early Learning and School Readiness*.
3. Involve families as partners in creating programs and policies to close the achievement gap.
 - Expand support services for low performing students and their families through collaborative efforts to locate mental health, health and nutrition, and community support networks within the school.
4. Provide additional technical assistance, direction, and financial support to schools serving high numbers of students not meeting state academic standards.
 - Establish best practice consulting teams, including high quality reading and math coaches, to assist schools with high numbers of low-performing students.
 - Require these schools to adopt a consistent curriculum and instructional sequence across all grades and schools within a school district to address the effects mobility has on student achievement.
 - Provide and require regular diagnostic assessments.
 - Dramatically reduce class size for low-performing students.
5. Make sure that schools serving high numbers of students not meeting academic standards have teachers and administrators of the highest quality.
 - Provide staff training in diversity and cultural competency.
 - Train teachers to recognize characteristics of high ability students and to provide for advanced learning needs.
6. Recognize that students learn in different ways and at varying rates of speed and ensure additional learning time is provided to permit all students to meet standards.
 - Expand instructional opportunities to give students more time and instructional support to acquire fundamental skills.
7. Implement preventative strategies and intervention services to ensure students do not fall behind or fail before being provided extra help.
 - Initiate general education interventions to target learning concerns of students at risk of not meeting state academic standards.
 - Include in the general education intervention plan steps to be taken to help the student meet standards including specific strategies parents can and should use to support the student's learning

8. Implement strategies that ensure students with disabilities reach their full potential to live, learn, work and play in their communities.
 - Recognize that strategies throughout the P-16 plan are also applicable for students with disabilities.
 - Inform parents and families of students with disabilities about the importance of student participation and progress in achieving Indiana's academic standards.
 - Use data generated through Indiana's Standards Tool for Alternate Reporting (ISTAR) to improve student progress.
 - Further disaggregate special education achievement data by exceptionality in order to better understand and address achievement gaps.
 - Develop the necessary partnerships between schools and Vocational Rehabilitation to ensure seamless transition from secondary to post-secondary activities.

9. Provide incentives for schools to reduce the number of students who are chronically absent* and the number of students who drop out as identified in *Dropout Prevention*. (**A chronically absent student is a student that has been absent more than ten days from school within a school year without being excused.*)
 - Involve human service organizations and the judicial and criminal justice system in community-based efforts to reduce absenteeism and dropouts.

10. Teach all students to speak, read, and write English. Provide additional resources to schools with high numbers of limited English proficient (LEP) students.

11. Insist on a rigorous academic curriculum and instruction for all as outlined in the following section, Ensuring College and Workforce Success.

Ensuring College and Workforce Success

Hoosiers are living in a world fueled by information, powered by technology, and driven by knowledge - a world in which education beyond high school is essential for success. Indiana students and families have begun to recognize this reality. Currently, 60 percent of Hoosier students go directly to 2-year or 4-year colleges after graduating from high school. Indiana now ranks 17th in the nation in this regard.²²

Increased access to higher education does not guarantee success. Nearly a quarter of Indiana college students do not return for their second year of college.^{23,24} While reasons for dropping out are many, one factor is clear: access without the preparation to succeed is not a true college opportunity.

The importance of high academic expectations for all Indiana students cannot be overstated. Research supports that a rigorous academic curriculum is the single-most significant factor in determining a student's success in college. In fact, research indicates that rigorous course-taking in high school can overcome a variety of determining factors and socio-economic circumstances, including poverty and level of parental education.^{25,26}

Students entering postsecondary education inadequately prepared for the rigors of college often are placed in noncredit or remedial courses wherein they pay college tuition to learn high school-level skills and concepts. As a result, these students take longer to complete their programs of study and are left with larger debt upon graduation. Colleges providing the remediation for these ill-prepared students divert resources away from collegiate-level instruction. Many of these students leave college before earning a degree.

Not completing a 2-year or 4-year college education has dramatic financial implications to the individual as well as the state. The lifetime earning potential of a student not completing higher education is nearly \$1 million less than an individual with a degree. Ten thousand additional students earning a four-year degree, will add as much as \$250 million per year to the economy (approximately \$10 billion over a 40-year lifespan).²⁷

In 1994, K-12, business, and higher education came together in support of Core 40 – a single high school curriculum designed to give students the best foundation for success in college and the workforce. Completion of the Core 40 curriculum has been recommended by the state, but is currently not required. The number of students completing the Core 40 curriculum has increased since its implementation. In 2002, 61 percent of Indiana graduates earned a Core 40 Diploma. During that same year, 27 percent of these students also graduated with an Academic Honors Diploma.²⁸

This increase is significant, but all students need and deserve the preparation provided by the Core 40 and Academic Honors curriculum. The opportunities for students going directly into the workforce without this same preparation are limited. Studies conducted by the American Diploma Project show the academic requirements of employers offering family-wage jobs, apprenticeship programs, and the military are very similar to the academic requirements for college.^{29,30,31}

Ensuring College and Workforce Success

Next steps to improve student achievement:

1. Ensure Indiana's requirements for high school graduation provide students with the academic foundation necessary for the demands of college and a knowledge-based economy. Ensure that the state's differentiated diploma requirements are among the best in the nation.
2. Insist on high-quality, rigorous academic curriculum for all. Make Core 40 the required high school curriculum.
 - Provide sufficient time for communication with parents and students regarding the new requirements and for preparation for the changes to be made by teachers and schools.
 - Communicate with parents and students the advantages of completing the more rigorous coursework required for Core 40 and Academic Honors.

- Require students choosing not to take the recommended Core 40 course of study to formally “opt-out” with parental and school consent.
 - Require students opting-out of Core 40 to complete the requirements for a general diploma. Strengthen general diploma requirements to provide a more focused career and academic sequence.
 - Ensure the quality, consistency, and alignment of high school curriculum and instruction to Indiana’s Academic Standards by implementing a Core 40 End-of-Course Assessment (ECA) System. Use appropriate End-of-Course Assessments as college placement exams (*see Higher Education and Continued Learning*).
3. Encourage students with progressive exposure to the world of work through connected learning experiences including job shadowing, career days, internships, cooperative learning, academic and career majors, and other career exploration opportunities.
 - Ensure that attendance policies support the educational value of these experiences.
 - Encourage all schools to develop course sequences for academic and career majors within Core 40 and encourage all students to take advantage of the preparation these sequences provide.
 4. Ensure that all K-12 schools have comprehensive guidance programs that support high achievement for all students and begin career and college counseling no later than middle school.
 5. Increase the achievement of the state’s “highest achievers,” including efforts to significantly grow the number of students completing:
 - Algebra by grades 7 and 8
 - Advanced Placement courses
 - PSAT and PLAN
 - International Baccalaureate programs
 6. Ensure that all students have opportunities to take Advanced Placement (AP) and dual or concurrent enrollment programs to earn college credit while in high school.
 - Ensure that students are not prohibited from taking advantage of dual enrollment opportunities because of cost.
 - Ensure that dual credit courses are high quality and comprised of college-level coursework and that the credits earned are transferable among Indiana’s colleges and universities.
 7. Ensure that vocational/technical programs offered at the high school level lead to highly skilled occupations in high demand areas.
 - Ensure high school vocational-technical programs link with degree programs at Indiana two-year and four-year colleges when appropriate.
 - Ensure vocational/technical programs provide business and industry certification of skills.
 8. Implement an electronic, high school transcript system to transfer student data between high schools, postsecondary institutions, and employers.
 9. Ask Indiana employers to demonstrate business and industry support and demand for higher student academic achievement in hiring practices.

Drop Out Prevention

Although most children in the United States attend school through the middle grades, a disturbing number of students do not complete high school. In Indiana, it is estimated that more than 20,000 students (1 out of 5) do not graduate each year.³² The legal age to drop out of high school in Indiana is 18, and as early as 16 with parental permission.

Without a high school diploma, students are left with few options and minimal opportunities for the future. When students drop out the consequences extend far beyond the individual. Over 25 to 30 years, a dropout student can cost a community as much as \$500,000 in public assistance, health care, and incarceration costs. Conversely, a high school diploma can add nearly \$500,000 in earning potential during a worker's career.³³

We no longer can afford the huge cost that high school dropouts have become to our society. Without citizens that have mastered even basic level skills, Indiana cannot compete in a modern, knowledge-based economy.

Schools must have safeguards in place to keep students from falling behind in their academic coursework, becoming discouraged with their lack of progress, and leaving school prior to graduation. Parents must be engaged and informed of the adverse effects associated with students foregoing their education. Targeted, sustained support must be readily available to students that need additional assistance.

Many student dropouts will not return to the school in which they were not successful. To provide these individuals with the help they need to succeed, linkages with effective adult education programs located at local community colleges, community centers, worksites, or alternative high schools must be made. Adult basic education programs in Indiana are administered by the Indiana Department of Education, Division of Adult Education. In 2002, 11,289 individuals took the General Educational Development (GED) test through adult basic education services across the state. 8,791 of these achieved the GED certification. The average age was 24.5.

Drop Out Prevention

Next steps to improve student achievement:

1. Improve academic foundation skills through rigorous curriculum, differentiated instruction, and early intervention programs that ensure the gaps in achievement between poor and affluent children do not develop.
 - Recognize that dropout prevention strategies must begin in students' early years, as outlined in *Early Learning and School Readiness* and *Eliminating the Achievement Gap*.
2. Develop mentoring programs for students at-risk of failing
3. Establish rigorous academic alternative programs.
 - Provide flexibility to coordinate school, work, and family responsibilities.
 - Decrease barriers to learning such as child care, health issues, and transportation.
4. Report chronic absenteeism beginning with elementary school students.
 - Help schools track, analyze, and use chronic absenteeism, truancy, and dropout trend information to implement prevention and intervention strategies.
 - Provide schools with financial incentives to reduce chronic absenteeism and dropouts.
5. Implement financial policies to ensure that low-income (high dropout) school districts have sufficient resources, including appropriate technology tools, to mount challenging innovative alternative approaches and appropriate support services.

6. Encourage and enable school partnerships with the judicial system, division of family and social services and other community-based organizations to identify and implement interventions to keep students in school.
 - Make suspensions and expulsions unappealing to students.
 - Ensure educational services continue for students suspended or expelled.
 - Require out-of-school suspensions and expulsions to be at a school setting or an alternative location with educational services provided.

7. Raise the dropout age to 18.
 - Review curfew laws and implementation as they pertain to students who are suspended, expelled or have dropped-out of school to ensure they are aligned to support student learning.
 - Review student work permit laws and implementation to ensure they are aligned to support student learning.
 - Review drivers license laws and implementation as they pertain to students who are suspended, expelled or have dropped-out of school to ensure they are aligned to support student learning.

Higher Education and Continued Learning

Never before in the history of America has a college education been more important. In a knowledge-based global economy, competitive advantage comes from the people and the skills, innovation, and know-how they bring to the table. To succeed, Indiana's higher education system must be positioned to serve more students, meet workforce demands, spur economic development, expand research capacities, and contribute to the quality of the social and cultural lives of Indiana residents.

One common indicator of the health of higher education in any state typically is enrollment. With more than 324,000 students participating this fall, Indiana's higher education enrollment has continued to set records over the past several years.³⁴ Over the past two decades, Indiana's progress in this area has outpaced the growth in other mid-western states as well as Indiana's own modest population growth.^{35,36,37}

Even with this success, Indiana still lags the nation when it comes to adult participation in higher education. Only 3.3% of Indiana's adults attend college, significantly below the national average of 4.4%. The Hoosier state also falls short in the percentage of adults age 25 and older with a 2 or 4-year college degree – ranking 49th in the nation in 2000.³⁸

In response, the community college partnership between Ivy Tech State College and Vincennes University was formed to expand affordable access and flexible opportunities to working Hoosiers. The state also increased efforts to expand statewide transfer and articulation agreements between all public colleges and universities.³⁹ The individual and collective futures of our citizens and our state will require a dramatic increase in the number of students successfully completing their college goals and continuing to live and work in Indiana. In the current context of global competition and economic recovery, more must be done if Indiana is to be positioned to meet the growing demands of retooling and retraining our current workforce.

Affordability will be critical to continued growth in postsecondary participation and completion. In addition to keeping costs within reach of all Hoosiers, colleges and universities must provide the appropriate support mechanisms to ensure students persist to degree completion.

Since Indiana colleges educate the majority of Indiana's K-12 teachers, it is imperative that these institutions guarantee that their current students, as well as, their alumni are well equipped with the necessary skills to achieve the P-16 vision of improving student achievement. Success in college is largely dependent on successful K-12 preparation, and as such, Indiana's institutions of higher education must make the education of teachers their top priority.

Higher education's role will continue to be ever more vital to the state's economic future as the transition from a manufacturing base economy to a knowledge base economy progresses. The state has supported a variety of initiatives and degree programs to improve and diversify Indiana's economic base through a stronger economic development role for higher education. Focusing on research, life sciences, advanced manufacturing, information technology, and 21st century logistics, it is imperative that the state utilizes its resources in an efficient manner that encourages productivity and maintains quality.

In contrast to other states, Indiana's higher education system educates the majority of its college students in doctorate-granting institutions, which are typically the most expensive sector of any state system.⁴⁰ With the emergence of Indiana's community college partnership and refocused regional campuses, Indiana has the unique opportunity to realign its system in a manner that differentiates roles based on institutional strengths. Such an opportunity will allow the state to broaden the number of students served, as well as assist its public research universities in reaching their fullest potential.

The state of Indiana has been a pioneer in integrating the traditional apprenticeship programs into the two-year college system. Additionally, the Department of Workforce Development has developed an array of workforce certificates verified by private business and industry that are increasingly used in many training programs.

Business and industry training programs funded by state and federal funds are primarily delivered through the Indiana Department of Workforce Development and the Indiana Department of Commerce programs. These organizations are required to submit to the Governor's Office and to members of the General Assembly an annual report of training activities.

Higher Education and Continued Learning

Next steps to improve student achievement:

1. Preparation for Success

Maximize the potential for college degree completion by aligning college and university admission standards, remediation policies, and state-provided financial aid with the preparation needed to succeed in college.

- Implement strategies outlined in *Ensuring College and Workforce Success*.
- Require Core 40 or Academic Honors completion (or documented equivalent) as a minimum public college admission requirement and as a mandatory state financial aid requirement for students attending public four-year universities in Indiana. Invite Indiana's private colleges and universities to adopt this same minimum admission requirement.
- Provide sufficient time for communication with parents and students regarding new admission and financial aid requirements. (Recommend a minimum of 5 years advance notice.)
- Maintain an open door admission policy at the state's community college partner institutions (Ivy Tech and Vincennes University). Encourage students pursuing higher education at these colleges to complete Core 40 or Academic Honors.
- Allow students not meeting the Core 40 minimum admission requirement for the state's four-year universities to earn a waiver of this admission requirement and have eligibility for financial aid reinstated by successfully completing a semester of college-level transferable coursework at a community college campus.
- Use student performance on appropriate Core 40 End-of-Course Assessments as college placement information, eliminating the current need for students to take college placement exams after they are admitted. (*Note - College placement exams are not admission exams such as SAT or ACT – placement exams are currently used by colleges to determine if students need remediation, are ready for credit-bearing coursework, or can be placed in higher-level college classes.*)
- Improve feedback loop between colleges and high schools regarding how well prepared students are for college-level work. Share freshman persistence data with respective high schools to inform curriculum alignment.

2. Participation

Ensure higher education opportunities are readily available to meet the growing demands for education by high school graduates; adults age 22-49; minorities; economically disadvantaged; and first generation college students.

- Structure enrollment growth in a manner that is most efficient and effective by expanding the Community College Partnership to all 23 Ivy Tech campuses and enhancing "passport" programs between four-year and two-year colleges and universities.
- Maximize the 21st Century Scholars program for low-income middle school students by increasing the participation rates of eligible students.
- Support efforts that target hard-to-serve rural areas of the state including the enhancement of current and development of additional reciprocity agreements with bordering states and increasing access through delivery of college courses at workplace settings and through distance education.
- Track and report disaggregated student enrollment data annually.

3. *Affordability*

Ensure that access to higher education is not challenged by cost of attendance by adopting a coherent student assistance and institutional funding policy that is coordinated with expectations regarding resident undergraduate tuition and fees.

- Sustain institutional funding for state universities at levels that will allow for increased quality without resulting in significant increases in residential undergraduate tuition and fees.
- Ensure tuition and fees at Indiana's two-year colleges are no higher than the national average.
- Adopt a long-range policy for providing need-based assistance to academically-prepared resident undergraduate students reflecting the financial needs of those in different sectors of higher education.

4. *Degree Completion*

Provide Indiana's businesses and industries with increasing pools of skilled and trained workers necessary to compete in a global economy.

- Increase the number of students completing two-year and four-year degrees by identifying and eliminating barriers that exist for students in persisting in their college work to degree completion.
- Develop higher education progress reports regarding current efforts to enhance student persistence and completion as a means of identifying best practices.
- Increase statewide transferability of academic credit in keeping with the intent of House Bill 1209 (now PL 24-2003) and inform the availability of these options to students.
- Accelerate the progress being made by the Statewide Transfer and Articulation Committee including the development of statewide transfer-of-credit agreements for 80 courses that are most frequently taken by undergraduates and agreements that fully articulating Associate of Arts and Associate of Science programs with related baccalaureate degree programs.

5. *Teaching*

Ensure that the recruitment, training, and continued skill renewal of students pursuing a teaching profession are top priorities of Indiana colleges and universities.

- Implement strategies identified in *Teaching and Learning* and *School and District Leadership*.
- Continue funding, and provide new funding as appropriate, of academic programs targeted at teacher preparation directly supporting the state's efforts to improve student achievement, including targeting preparation of teachers in high need content areas.
- Strengthen higher education's role in providing current Indiana K-12 teachers with targeted resources, professional development, and the technological competence to ensure high quality instruction.

6. *Research and Economic Development*

Maximize higher education's role in sustaining a secure economic future for the state through continuous education and training, and basic and applied research that leads to innovation, discovery, and development.

- Develop new programs, and expand existing programs, which target specific economic areas important to the state and local communities.
- Expand, enhance, and incorporate internship experiences and career exploration opportunities with Indiana employers into college academic programs to decrease the current "brain drain" trend of college graduates leaving the state.
- Offer adult and continuing education in noncredit and credit formats when there can be verifiable certification of learning.
- Support and expand basic and applied research at the doctoral universities.

7. *Accountability*

Implement an accountability system and public report card for the state's higher education sector and for state-supported workforce training programs.

Communication

Effective communication is critical to achieving our shared P-16 vision of providing every Hoosier child with the academic foundation needed to succeed in an ever-changing world. In order for the actions outlined in the P-16 Plan to have long-term and far-reaching effects on improving student achievement, communication strategies must be developed and delivered widely. Effective and targeted communication efforts will:

- Clearly explain the non-negotiable nature and urgency of raising student achievement for all students;
- Honestly convey the progress Indiana has made and the challenges that still exist; and
- Motivate individuals to take specific actions.

Everyone has a part to play if Indiana is to be successful. Students, parents, teachers, school and district leaders, school counselors, employers, higher education, community leaders, policymakers, child care providers, social service agencies, law enforcement, health care professionals, and others throughout the state and in local communities will need to know their roles in ensuring the success of all of Indiana's children.

Clearly spelling out what we collectively want for every child will enable us to develop, deliver, and assess the effectiveness of our communication efforts.

- ✓ All infants get the best foundation for learning by receiving the prenatal care they need to enter the world healthy.
- ✓ All children receive the care, love, nurturing and experiences they need as the foundation for early brain development.
- ✓ All children have the early learning experiences they need to enter Kindergarten ready to learn.
- ✓ All students are reading at or above grade level by the end of third grade.
- ✓ All students meet or exceed academic standards at each level.
- ✓ All students enroll and succeed in rigorous high school courses and graduate from high school prepared to succeed in college and the workforce.
- ✓ All students have the opportunity to attend college.
- ✓ Every student who enters a postsecondary program completes a degree.
- ✓ Every Hoosier has access to continued lifelong learning.

Communication

Next steps to improve student achievement:

1. Develop and conduct a comprehensive public engagement campaign that consistently and effectively communicates across P-16 the importance; measures taken; and actions needed to improve student achievement.

Effective Use of Technology and Efficient Use of Resources

Technology

Indiana has invested heavily in educational technology, connecting over 95% of our schools to the Internet and increasing the number of computers in every school. The state has made great strides toward providing the foundation of technology to implement the P-16 plan. Now it is time to take the next logical step, to ensure adequate technology resources are provided to improve student achievement.

Technology connects communities and enhances the process of sharing information that enables teaching and learning by managing and communicating relevant and accurate information in an effective and timely manner, a critical capacity for improving educational achievement. Such technology-enabled information provides more effective and efficient understanding of student strengths and weaknesses; drives more effective teaching and learning; and confirms student progress, building momentum for further educational gains.

Students rely on technology to enrich, expand and remediate their learning. Educators rely on technology for instructional resources, student data, communications and collaboration. Parents depend on technology to sharpen their guidance and educational skills, as well as communicate efficiently with school personnel.

Computers and Internet connections are of no use to our schools unless used effectively. Individualized computing tools, high quality online educational resources, and professional development in the use of technology are essential to the success of the entire P-16 plan.

If high student achievement is the goal, accurate, timely and relevant information and resources delivered through technology are essential.

Effective Use of Technology

Next steps to improve student achievement:

1. Expand the data communications capacity of every school by providing broadband networks interconnected with the state backbone to support:
 - New and better ways of learning and assessing learning through statewide on-line testing and timely reporting.
 - Access to high bandwidth applications such as distance learning, online or web-based services, data warehousing, etc.
2. Ensure every school has the technology to meet the requirements of the P-16 plan, including but not limited to increasing the computing capacity of every school and classroom. The ultimate target should be the provision for one-to-one computing.
3. Provide for an array of online and web-enabled tools for students, teachers, parents to improve student learning and home/school communications.
4. Provide both on-line and video distance learning options for students, teachers and administrators to fulfill the requirements of the P-16 plan, including:
 - Access to Core 40 courses, International Baccalaureate programs, Dual Enrollment and Advanced Placement.
 - Access to professional development, leadership training, best practices reviews, and benchmarking.

- Access to collaborative learning opportunities for students, teachers, administrators.
- Access to vocational, technical programs and career exploration.
- Access to alternative schooling options for at-risk students.

5. Provide professional development for teachers to better integrate technology into the curriculum.

Resources

Our individual and collective security hinges on our ability to effectively prepare students to take an active and informed role in a democratic society. Raising student achievement is important for Hoosier students, families, communities, and the state.

Exceeding more than 50 percent of the state's budget, public education is Indiana's single largest expenditure.⁴¹ Additional financial resources for education are received from the federal government. Effective use of these resources calls for alignment and prioritization of our current expenditures with the outcomes we are seeking.

As part of P.L. 224-2003, the Indiana General Assembly created a government efficiency commission to review state-funded agencies, departments, and programs and make recommendations to the Governor and General Assembly for improving efficiency and reducing unnecessary costs.

Indicators of Effective Use of Resources were identified in the State Aims for Education adopted by the State Board of Education in 2001. As the P-16 Plan is finalized, these indicators should be taken into consideration.

It is imperative that P-16 resources are targeted, leveraged, and efficiently used to bring about the greatest gains in student learning. Key fiscal principles for P-16:

- Current expenditures must be reviewed for efficiency and effectiveness and aligned with the outcomes we are desiring.
- Additional investments will be needed to prevent and eliminate achievement gaps.
- Additional investments to eliminate achievement gaps should be expected to result in savings in special education, remediation, and dropout prevention costs.

References

1. As ranked by experts with Achieve, Inc., The Thomas B. Fordham Foundation, International Center for Leadership in Education, American Association for the Advancement of Science – Project 2061, and The National Center for History Education.
2. Sanders, William L. and Rivers, Joan C. (1996). “Cumulative and Residual Effects of Teachers on Future Student Academic Achievement.”
3. Jordan, Heather, Mendro, Robert, and Weerasinghe, Dash (1997). “Teacher Effects on Longitudinal Student Achievement.”
4. Indiana Department of Education (2003). Certified Employee/Certified Personnel Report, 2002-03.
5. Indiana Professional Standards Board (2003).
6. U.S. Census Bureau, Census of Population, 2000.
7. Children’s Defense Fund (2003). Children in Indiana. Retrieved August 26, 2003 from <http://www.childrensdefense.org>.
8. Barnett, W.S. (May 23, 2003). National Institute for Early Education Research. PowerPoint presentation. United Way Success By Six, Charlotte, NC.
9. Reynolds, A.J., Temple, J.A., Robertson, D.L., and Mann, E.A. (2002). *Age 21 Cost-Benefit Analysis of the Title I Chicago-Child Parent Centers*. Madison, WI: Institute for Research on Poverty.
10. Masse, L.N. and Barnett, W.S. (2002). *A Benefit-Cost Analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, NJ: National Institute for Early Education Research.
11. Peisner-Feinberg, E.S., Burchinal, M.R., Clifford, R.M., Culkin, M.L., Howes, C., Kagan, S.L., Yazejian, N., Byler, P., Rustici, J., & Zelazo, J. (2000). *The Children of the Cost, Quality, and Outcome Study Go To School: Executive Summary*. Chapel Hill, NC: University of North Carolina at Chapel Hill, Frank Porter Graham Child Development Center.
12. National Research Council. (2001). *Eager to Learn: Educating Our Preschoolers*. Committee on Early Childhood Pedagogy . B.T. Bowman, M.S. Donovan, & M.S. Burns, Eds. Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
13. National Research Council and Institute of Medicine. (2000). *From Neurons to Neighborhoods: The Science of Early Childhood Development*. Committee on Integrating the Science of Early Childhood Development. Jack P. Shonkoff and Deborah A. Phillips, eds. Board on Children, Youth, and Families, Commission on Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
14. National Center for Education Statistics. (1999-2000). National Assessment of Educational Progress (NAEP).
15. U.S. Bureau of Census. (March 1998). Current Population Reports, Educational Attainment in the United States.
16. The Education Trust. (2003). *Improving Achievement and Closing Gaps Between Groups*. The Education Trust. Prepared for Indiana’s Education Roundtable by Kati Haycock.
17. Sanders, William L. and Rivers, Joan C. (1996). “Cumulative and Residual Effects of Teachers on Future Student Academic Achievement.”
18. National Center for Education Statistics. (1999) *Vocational Education in the United States: Toward the Year 2000, an Issue Brief: Students Who Prepare for College and a Vocation*.

19. Cooney, Sandra and Bottoms, Gene. (2002). "Middle Grades to High School: Mending a Weak Link," Southern Regional Education Board.
20. Hallinan, Maureen. (May 2002). "Ability Grouping and Student Learning,".
21. Adelman, Clifford. (1999). "Answers in the Tool Box: Academic Intensity, Attendance Patterns, and Bachelor's Degree Attainment," Web-Based Version, U.S. Department of Education, Washington, DC.
22. Mortenson, Tom. (2002). *Postsecondary Education Opportunity*, Oskaloosa, Iowa.
23. ACT "Institutional Data Questionnaire," unpublished analysis by ACT, Iowa City, Iowa.
24. The National Information Center for Higher Education Policymaking and Analysis. <http://www.higheredinfo.org>.
25. Horn and Nunez. (2000). *Mapping the Road to College: First-generation Students' Math Track, Planning Strategies and the Context of Support* (NCES 2000-153).
26. In Choy, S.P. (2002). *Access & Persistence: Findings from 10 Years of Longitudinal Research on Students*. American Council on education, Center for Policy Analysis.
27. U.S. Census Bureau, Current Population Survey. "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings," July 2002.
28. Indiana Department of Education (2003). Certified Employee/Certified Personnel Report, 2002-03.
29. The American Diploma Project. (2002). *Connecting Education Standards and Employment: Course-taking Patterns of Young Workers*, 2002.
30. The American Diploma Project. (2002). *Defining Postsecondary Expectations for Reading and Writing in Indiana*.
31. The American Diploma Project. (2002). *Defining Postsecondary Expectations for Mathematics in Indiana*.
32. Mortenson, Tom. (2002). *Postsecondary Education Opportunity*, Oskaloosa, Iowa.
33. USA Today. (2003). "Are Exit Exams Boosting Dropout Rates?" Toppo, Greg.
34. Indiana Commission for Higher Education, Student Information System, 2003.
35. U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Fall Enrollment in Colleges and Universities" surveys.
36. Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment" surveys.
37. U.S. Census Bureau (2002). Current Population Survey.
38. U.S. Census Bureau (2002). Decennial Census.
39. Indiana Commission for Higher Education, Statewide Transfer and Articulation Committee: 2003 Progress Report.
40. National Center for Education Statistics.
41. Indiana State Budget Agency. *State of Indiana List of Appropriations: 2003-2005*.

Indiana's Education Roundtable
www.edroundtable.state.in.us