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ABSTRACT

This policy brief summarizes the thinking of eight essays by national experts commissioned by the Education Commission of the States to explore why and how states are redesigning their education systems for the benefit of all learners. P-16 is a shorthand term for a student-focused, comprehensive and integrated system that links all education levels from preschool (P) through the senior year of college (16). The essays this paper synthesizes touch on key issues of early childhood care and education, K-12 pathways to college, assessments, teacher quality, costs, and policy options. A P-16 system has the potential to produce tangible benefits such as: (1) all children have access to high-quality preschool programs; (2) learning becomes more individualized; (3) all students have access to a rich, challenging curriculum and are expected to achieve at high levels; (4) the gap in achievement between minority and white students narrows; (5) exit requirements at one level of the education system match entrance requirements at the next, and assessments strengthen and support those connections; (6) students fully understand the productive role they play as citizens of a democracy; and (7) the education system is in sync with changing workforce needs. (SLD)

The Case for P-16: Designing an Integrated Learning System, Preschool Through Postsecondary Education

Carl Krueger

2002

Education Commission of the States

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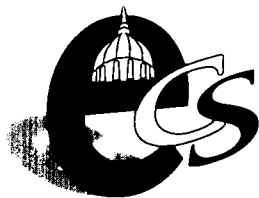
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Education Commission
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The Case for P-16:

Designing an Integrated Learning System, Preschool Through Postsecondary Education



Frank L. O'Bannon

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To ECS Constituents:

I am pleased to have the opportunity to commend to policy leaders across the nation *The Case for P-16: Designing an Integrated Learning System, Preschool Through Postsecondary Education*. This policy brief summarizes the thinking of eight national experts commissioned by the Education Commission of the States (ECS) to explore why and how states are redesigning their education systems for the benefit of all learners.

Education is the fundamental building block of democracy. It must be equally extended to all of our citizens in a way that encourages learning through high standards, rigorous curricula and ample support. The education system must be accountable to the taxpaying public and accessible to all.

Today, these basic attributes are in need of shoring up. In my view, a comprehensive, integrated approach to education from preschool through college (P-16) is the best means to meet the challenges ahead. I am pleased to see ECS bringing to state policymakers the very best thinking and research on P-16.

In Indiana, we have recognized the need to build a continuum of education that starts in the earliest years of a child's life and extends into adulthood. This continuum must embody interconnected, systemic improvements; it cannot be established by concentrating solely on one area or level of the education system. Although we have made great strides in Indiana, our work is far from finished. We must continue to develop our new community college system, align our K-12 curriculum with higher education and look at a coordinated P-16 education finance policy.

I will continue to promote and work for a continuum of learning in Indiana. It is a challenge that requires vision, creativity, commitment and consensus.

I will look to ECS to be a partner in our efforts to make the Indiana education story a lasting one.

Frank L. O'Bannon
Governor of Indiana

P-16

Contributors to the "Change in Education" Series

The following education and policy experts wrote the eight essays in the MetLife/Pew series. The papers are available at www.ecs.org/html/IssueSection.asp?issueid=76&rs=Other or may be purchased from 303.299.3692:

Imperatives for Change: The Case for Radically Redesigning Public Education in America by **Ferrel Guillory**, director of the Program on Southern Politics, Media and Public Life at the University of North Carolina at Chapel Hill

Giving America's Young Children A Better Start: A Change Brief by ECS Distinguished Senior Fellow **Sharon Lynn Kagan**, Virginia and Leonard Marx Professor of Early Childhood and Family Policy at Teachers College, Columbia University, and senior research scientist at Yale University's Child Study Center

Sewing a Seamless Education System by **Robert H. McCabe**, senior fellow at the League for Innovation in the Community College and former president of Miami-Dade Community College

Introduction

The value of an education is directly related to the nature of the times. As the old industrial economy evolves into one that is knowledge-based, as political structures shift from a national to a global scope, and as society as a whole becomes increasingly diverse, the value of an education rises for an ever-growing segment of our population.

History and tradition, however, have left us with a dysfunctional, disconnected American education system that lengthens the odds of success for the very students most in need of support and encouragement. Each level of the system – preschool, elementary, middle school, high school, postsecondary education – acts independently, leaving students and parents unsure about what is expected from one level to the next. This may have been acceptable when only some students needed to navigate the system through a postsecondary education, but today, *everybody's* future is tied to education and everybody must achieve at higher levels.

P-16 is the shorthand term for a student-focused, comprehensive and integrated system that links all education levels from preschool (P) through the senior year of college (16). It is a powerful framework for policymakers to use to improve teaching and learning and thus better prepare students for living, learning and working in a changing world.

A P-16 system seeks to improve student flow and raise student achievement through improved collaboration and coordination across education levels. A series of benchmarks all students can meet are considered integral to such a system. For example:

- **Early Learning:** Children are ready to enter school at age 5.
- **Grades K-3:** Students acquire basic literacy/reading proficiency by the 3rd grade.
- **Grades 4-6:** Students continue to achieve basic skills at grade level.
- **Grades 7-8:** Students are proficient in writing, science and math, with all 8th graders demonstrating a basic understanding of geometry and algebra.
- **Grades 9-10:** Students achieve basic literacy and numeracy by grade 10. Advanced students complete high school at grade 10. Students have the option of enrolling in dual-credit or career-academy programs.
- **Grades 11-16:** K-12 and higher education are linked via a framework that simplifies the admissions process and better uses grades 11 and 12, teaching all students higher-order literacy, numeracy and citizenship, and allowing customized learning approaches responsive to the interests of individual students.

Half of the states already have begun to move toward a P-16 system. But the transition will be a difficult and challenging process, requiring sustained effort to overcome entrenched attitudes and practices, inertia and turf issues.

Last year, the Education Commission of the States (ECS), with the support of the MetLife Foundation and the Pew Charitable Trusts, commissioned a series of essays designed to challenge state policymakers' thinking about their education systems and enlarge their understanding of the major elements and benefits of a P-16 approach (see list on pages 2 and 3).

This policy brief offers a summary of the papers' major points, touching on the key issues of early childhood care and education, K-12 pathways to college, assessments, teacher quality, costs and policy options.

Redesigning the System: How States Are Going About It

advances in our understanding of the teaching and learning process. We know, for example, that:

- Students learn in different ways and at different paces.
- Early learning is critical to a child's success in school and beyond.
- Tracking systems determine a student's academic (and career) path as early as elementary school.
- The senior year of high school is underutilized.
- At least two years of education or training beyond high school are necessary in the new, knowledge-based economy.
- The current system is plagued by gaps and disconnects; it forces students, in the words of Robert H. McCabe, to "navigate through turmoil."

Twenty-five states have some form of P-16 effort, with more on the horizon.¹ P-16 can be implemented as either a "mega-bill" introducing broad, sweeping changes or as a continuum of incremental changes. Incremental approaches build a P-16 system piece by piece, gaining support for one area of restructuring and change before moving on to the next. Over time, these individual reforms combine to create a comprehensive P-16 system that is wholly different from its predecessors. While most states are using the incremental approach, some have chosen a more comprehensive strategy, addressing governance, finance, standards, assessments, admissions and program changes at all levels. The most notable example of this approach is Georgia, where former Governor Zell Miller created a P-16 initiative in 1995 that current Governor Roy Barnes renewed and expanded in 2000.

Off to a Good Start: Early Learning

during early childhood, but rather enrich a child's learning opportunities in conjunction with parents' support and involvement.

Sixty percent of all mothers with children under age 3 participate in the workforce.² Working single parents, as well as families in which both parents work, can reap great benefits from expanded early learning programs. High-quality early learning programs reduce the number of children likely to be held back a grade or referred to special services and, as adults, to depend on welfare or be incarcerated.

Policymakers have grown increasingly sensitive to the needs of young children, passing a variety of new programs in recent years. The best of these programs are modeled after North Carolina's successful school-readiness program. The Ready for School Goal Team in North Carolina identifies assessment tools and processes that aid in student achievement and help ensure every kindergarten in the state is ready to teach every child, regardless of their preparation levels.

With increasing attention paid to early care and education, program *quantity* is up – but program *quality* remains troublingly uneven, says Sharon Lynn Kagan. Unplanned expansion of early childhood programs in the 1990s created a good deal of chaos and confusion. Both

States' growing interest in the P-16 approach reflects deepening concern over the shortcomings of the existing education system, as well as major

Bringing Secondary Education into the Information Age: Universal College Preparation by ECS Distinguished Senior Fellow **James England**, former program officer at the Pew Charitable Trusts and provost at Temple University and Swarthmore College

Student Pathways Through High School to College by ECS Distinguished Senior Fellow **David R. Pierce**, former president and chief executive officer of the American Association of Community Colleges

Rethinking and Redesigning Education Assessment by **James W. Pellegrino**, former dean of Vanderbilt's Peabody College of Education and currently Distinguished College Professor, Department of Psychology, University of Illinois at Chicago

State Policy Options To Support a P-16 System of Public Education by **Chris Pipho**, former director of ECS' Information Clearinghouse and State Services divisions and currently research professor at the University of Colorado at Denver

Estimated Costs of Organizing a P-16 Education System by ECS Distinguished Senior Fellow **John Augenblick**, president of Augenblick & Myers, a Denver-based consulting firm specializing in education finance, and **Josiah Pettersen**, staff member at the National Conference of State Legislatures

P-16 System Redesign: Indicators of Progress

Here are some key indicators that policymakers can use to track progress as their states implement P-16 system redesign.

Early Learning

- Cognitive, physical and social development expectations for children entering kindergarten are published
- Increasing percent of students entering kindergarten ready to learn
- Increasing usage of public library services by young people

Elementary School/Middle School

- Increasing percent of students entering 4th grade able to read at grade level
- Increasing percent of 8th-grade students demonstrating a basic understanding of geometry and algebra
- Increasing percent of middle school parents attending school functions to learn what is required of their children in current and subsequent grades

public and private programs are often poorly organized and compete for the same limited funds. Most programs are unconnected to K-12 education, resulting in school readiness being a hit-or-miss proposition. To deliver early education more effectively, new services and programs need to be systematically linked. A P-16 system requires that the necessary framework be in place to ensure that services delivered to young children prepare them for success in grades K-3.

Elementary and Middle School: “Navigating Through Turmoil”

Tracking systems can limit a student's future from a very young age because they are often based on appearance and attitudes as much as on academics and because they can promote low expectations for students. Individualized learning plans should be developed in the elementary years, replacing tracking systems that sort students into different paths with different expectations.

A 1998 survey by the Southern Regional Education Board found that while 71% of students said they expected to attend a four-year college, their teachers expected only 32% of these students to go on to college. Low expectations coupled with a watered-down curriculum deny students the preparation needed to succeed in more challenging academic settings. To smooth the transition from elementary to middle school – and foster high expectations for all students – schools also need to coordinate and align the exit requirements of elementary school with the entrance requirements of middle school. By the time a student reaches middle school, he or she should already possess a strong academic foundation on which to build.

Once in middle school, it is equally important that students receive the tools they need to succeed in high school. Research shows, for instance, that if a student does not take Algebra I in the 8th grade, he or she will most likely not attend college.³ Middle schools can no longer function in a way that ignores students' varied learning needs. Special needs of all children, particularly those at risk, must be addressed in elementary school and passed along to the middle school staff.

Advances in assessment technology, McCabe notes, have provided us with tools to help create individual learning plans for students entering middle school that incorporate what is known about a student's academic achievement and progress, as well as his or her social and psychological development.

It is in elementary and middle school that students can develop high expectations and learn their valuable role as citizens in a democracy. In an era of low voter turnout and increasingly complex political issues, educating students in citizenship ensures the continuing stability of American democracy. Building on strong early care and education programs, a P-16 system continues to coordinate the transition between elementary and middle school, recognizing the individual needs of students and increasing their chance of success in high school and beyond.

Making Better Use of the High School Years: Pathways to College and the Workplace

requiring remediation in math, English and other basics before being allowed to enroll in college-level courses. And more than one-quarter of the freshmen at four-year colleges – and nearly half of those at two-year colleges – do not even make it to their sophomore year.⁵

A growing body of evidence suggests that a major contributor to this problem is the quality and intensity of the high school curriculum. As Jim England notes, too few students are taking the kind of courses they need to enter college ready to succeed.

A strong curriculum is important for work-bound students, too. Regardless of whether new high school graduates aspire to careers requiring university degrees or technical certificates, the prerequisites are virtually the same – algebra, geometry, laboratory sciences, and strong communication and problem-solving skills.

High schools and colleges must work together to develop clear statements of where high school ends and college begins for each major field of study. More important, students should be able to enroll in college when they are ready – even if they are in the 10th or 11th grade.

A blend of career academies, tech-prep and dual-credit programs, coupled with individualized study plans, would allow students to learn at a pace suited to their distinct needs. The P-16 approach calls for connecting the K-12 system with higher education to ensure requirements match, all students have access to a college-prep track, and students proceed at a pace appropriate for their individualized skills.

Standards, Assessments and Accountability

to foster individualized learning plans and greater collaboration between education sectors. In Oregon, for example, the Proficiency-based Admission Standards System (PASS) aligns college admissions and assessments with K-12 programs. Students must meet high school requirements in English, math and science, as well as college-level standards in the same content areas. PASS also provides college admission directors with detailed information about students' abilities and their readiness for college.

Here is an instance where education could profitably adapt a concept from the business world. Businesses use technology to continuously gather data and monitor and analyze trends without interrupting their day-to-day operations. Applying new assessment technologies to education would ensure schools no longer have to interrupt the normal instruction process at various times during the year to administer external tests to students. The time required to prepare for these tests also would decrease.

The sharing of data and results across education sectors can help teachers at one level better prepare students for success at the next level. P-16 creates a common set of learning goals and fosters the use of smaller, classroom-based assessments that track student achievement across all education levels.

Today, nearly three-quarters of the nation's high school students go to post-secondary education within two years of graduation.⁴ But a large number of these students stumble at the starting line,

Advances in technology have made assessment instruments multifunctional and more valuable than ever before. A P-16 system provides a framework for using these advances

Middle School/High School

- Increasing percent of high schools that make their college-prep curriculum the “default” curriculum for all students
- Increasing percent of 8th-grade students and parents who can identify the college-prep curriculum in their local high school
- Increasing percent of students leaving 8th grade prepared to succeed in a college-prep curriculum
- Increasing percent of 9th-grade students entering a college-prep curriculum

K-12/Higher Education

- Statements of the skills and knowledge expected of entering students published by colleges and universities
- Increasing percent of high school teachers who can describe what colleges expect of entering students
- Decreasing percent of recent high school graduates who must take remedial courses
- Increasing percent of college freshmen who continue into the sophomore year

Higher Education/ Workforce

- Increasing percent of employers reporting satisfaction with entry-level workers' skills and knowledge
- Increasing percent of new teachers rated effective by their school district.

Teaching Quality

A cornerstone of the P-16 system redesign effort is improving teacher preparation and professional development. A more connected system of education can greatly benefit teacher education efforts. With clearly articulated outcomes in place, teachers can better prepare students for success not only at the current level, but the next one as well.

Teacher preparation, however, is only one part of the teacher quality equation. Much of the current teaching force soon will retire, and statistics show that one-third of new teachers leave the profession within five years.⁶ In fact, it is estimated that over the next 10 years, the nation will have to replace three out of every four of its current teachers.⁷ This disturbing problem is exacerbated as the student population is expected to diversify and increase dramatically at the same time. As Ferrel Guillory notes, getting high-quality teachers into the classroom and keeping them there is of the utmost importance.

Colleges rely on K-12 schools to provide practice teaching sites, and K-12 schools rely on colleges to provide new teachers who are prepared to help students meet state standards. The P-16 approach to teacher quality problems is to focus upon this mutual dependence. A P-16 system seeks to create collaborative relationships based on common goals, consistent leadership support, a shared focus on student learning, voluntary partnerships and dedication to measuring progress.

P-16 Costs and Benefits

A P-16 system does not have to be expensive. A recent cost analysis shows that an increase in state spending of roughly 12% would be required to realize many of P-16's goals, such as universal preschool programs, higher student achievement in high school and stronger links between K-12 and higher education. States can explore a variety of cost-effective strategies, such as having parents contribute to early learning programs on an ability-to-pay basis.

The long-term benefits of a P-16 system far outweigh the initial costs. According to a cost-benefit analysis of the Title I Chicago Child-Parent Center Program, an intensive preschool program that helps students develop skills in reading, mathematics and communication, after an initial investment of \$6,730 per child, the program generated a total return to society at large of \$47,759 per participant. In other words, for every dollar invested in preschool, \$7.10 was returned to the community, mostly in the form of increased tax revenues.⁸ Students who successfully navigate the system and obtain a college degree also benefit. Since 1975, annual earnings for people with a bachelor's degree rose by \$8,000 to \$43,800, compared with a mere \$500 increase for high school graduates.⁹

Investment in a statewide P-16 education system is a sound investment in the future. A P-16 system creates a highly trained, highly skilled workforce that has the potential to boost state revenue through higher earnings and an increased tax base. At the same time, improved learning outcomes for students can contribute to reductions in the number of college students who require remediation and in the number of students who drop out of school, wind up on welfare or turn to crime.

Components of a Model Statewide P-16 Learning System

The primary goals of a P-16 system are to better prepare all citizens to lead productive lives in the new economy and con-

tribute responsibly to life in a democracy. A redesigned system capable of achieving these goals would have the following components and characteristics:

Early care and education programs

Preschool programs would be available to all 2-, 3- and 4-year-olds. They would be supported through a variety of funding systems, including parents who contribute to program costs on an ability-to-pay basis. Programs would focus on learning objectives, support parental education, identify children who need assistance to meet standards, and include both public and private providers. Children and their families would receive enrichment services on a part-day basis during the regular school year; child care, when required, would be provided for the remainder of the day. Enrichment and child care providers would receive appropriate compensation based on preparation, certification and experience.

Grades K-10

The delivery system would be enhanced through smaller classes in the early elementary years, more high-quality teachers, increased professional development, increased instructional time, use of teachers as counselors, smaller middle schools and differential pay scales for teachers (greater pay for greater expertise). Students would move through the system as they meet established benchmarks in critical skill areas. Students would not be allowed to move on to more complex material in a field until meeting the benchmarks. Enrichment is available to all students, as needed, beginning in preschool. Annual performance-based assessments tied to standards are required for diagnostic purposes (with the possibility of more frequent classroom assessments).

Grades 11-16

Diverse pathways to postsecondary education and training – as well as diverse learning opportunities and environments, such as career academies and tech-prep programs – would be available to students beginning in the 11th grade. The end point of basic education for all students would be moved from grade 12 to grade 14. Statewide standards would be extended to grades 14 and 16 and aligned with standards for grade 12 and below.

A key feature of a P-16 system would be the integration of data to allow the tracking of individual students' progress through the system and produce aggregated reports by classroom, building, district and state levels. Governance of the redesigned system would be vested in a P-16 governing board or statutory coordinating board, working with regional and local P-16 councils.

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Footnotes

- ¹ *P-16 Collaboration in the States* (2000). Denver, CO: ECS. Since publication of this document, Kentucky also has adopted a P-16 system.
- ² Bureau of Labor Statistics, U.S. Department of Education (2001). *Employment Status of Mothers with Children Under 3 Years Old by Single Year of Age of Youngest Child and by Marital Status, 1999-2000 Annual Averages*. Washington, DC: U.S. Department of Labor.
- ³ U.S. Department of Education (1997). *Mathematics Equals Opportunity*. Washington, DC: U.S. Department of Education.
- ⁴ Education Trust (2001). *Youth at the Crossroads: Facing High School and Beyond*. Washington, DC: Education Trust.
- ⁵ Education Trust.
- ⁶ "The ECS View," ECS Web Education Issue Site on Teaching Quality, www.ecs.org.
- ⁷ National Center for Education Statistics (1999). *Teacher Quality: A Report on the Preparation and Qualifications of Public School Teachers*. Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement.
- ⁸ Reynolds, Arthur J.; Temple, Judy; Robertson, Dylan L.; Mann, Emily A. (2001). *Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Program*. Madison, WI: University of Wisconsin.
- ⁹ Comparison of data compiled by the U.S. Census Bureau. *Statistical Abstract of the United States (1975-2000)*.

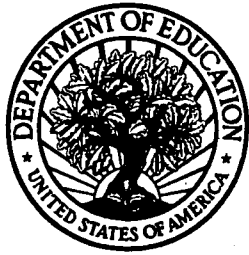
Conclusion

A comprehensive P-16 education system offers clear standards, an aligned and rigorous curriculum, effective assessments, clear expectations and widely shared responsibilities. A P-16 system has the potential to produce tangible benefits such as:

- All children have access to high-quality preschool programs.
- Learning becomes more individualized.
- All students have access to a rich, challenging curriculum and are expected to achieve at high levels.
- The gap in achievement between minority and white students narrows.
- Exit requirements at one level of the education system match entrance requirements at the next – and assessments strengthen and support those connections.
- Students fully understand the productive role they play as citizens of a democracy.
- The education system is in sync with changing workforce needs.

P-16 bolsters student achievement by focusing on early learning, raising academic expectations for all students, conducting constructive assessments, improving teacher quality and aligning student transitions from one level to the next. P-16 is about aligning education, not isolating each sector; closing the achievement gap, not fighting over turf; and responding to new needs, not maintaining the status quo. It is the missing piece in the struggle to make our education system fulfill the needs of all our citizens.

Carl Krueger, a researcher at the Education Commission of the States, wrote this policy brief, with the assistance of ECS staffers Terese Rainwater and Spud Van de Water.



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