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Education Policy Brief

Is Indiana Ready for State-Funded Pre-K Programs? Revisited

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INTRODUCTION

In 2006 the Center for Evaluation & Education Policy (CEEP) and the Indiana Institute on Disability and Community (IIDC), both located at Indiana University Bloomington, issued an Education Policy Brief titled, "Is Indiana Ready for State-Sponsored Prekindergarten Programs?" Seven years later, that critical question remains. While there appears to be growing public and political support for this early education strategy, evidenced by both Republican and Democrat leadership of the Indiana House of Representatives and Senate including this program in their 2013 legislative agendas, discussions about high-quality prekindergarten opportunities for young children who lack access to these programs have until now been limited. The National Institute of Early Education Research's (NIEER) State of Preschool Yearbook 2011 report indicated that 39 states publicly fund 51 prekindergarten programs that enroll more than 1.3 million children (NIEER, 2011). Indiana remains one of a minority of states that has not committed state funds to implement an early childhood education program. As a result, 60 percent of Hoosier three- and four-year-old children do not attend any preschool program (U.S. Census Bureau, 2011a).

A prekindergarten program is an educational program for preschool-age children (typically three- and four-year-old children) with the explicit goal of providing enhanced age-appropriate experiences to improve school readiness (Conn-Powers, Cross, & Zapf, 2006). It capitalizes on the research that the first five years of life are a time of rapid brain development. Even though the design, scope, and cost of prekindergarten programs vary from state to state, the states with publicly funded programs have made a financial investment to make this early learning opportunity available to families of young children.

Generally, practitioners and researchers distinguish between basic child care programs for children ages 0-5 that focus on health and safety measures and high-quality prekindergarten programs for three- to five-year-olds that have an educational/school readiness emphasis. In fact, Pianta and his colleagues' (Pianta, Barnett, Burchinal & Thornburg, 2009) review of current state policies and their alignment with research found that simply increasing the "provision of child care subsidies under current federal and state policies is particularly unlikely to produce any meaningful improvements in children's learning and development and could have mild negative consequences" (p. 51). In the market place there is also a variation in the quality of prekindergarten programs, but, as discussed in subsequent sections of this brief, the most effective ones focus on intensity of the learning experiences as well as program quality to ensure high returns on the investment.

As presented in the 2006 Education Policy Brief, states typically oversee prekindergarten programs through their state education agency (SEA). In 2011, 26 of the 39 states governed their publicly funded prekindergarten through the SEA, 8 through multiple state agencies, and 5 through their agencies for child, human, and/or social

services (NIEER, 2011). Locally, program providers may be comprised of some combination of public school districts, for-profit providers, and non-profit organizations. The stipulation that school districts offer prekindergarten programs is generally optional, not mandatory, in most states. Furthermore, of the 51 programs funded by the states, 11 are full-day programs (five hours or more), 12 are half-day programs, and 28 allow for local determination of hours of operation (NIEER, 2011). Indiana's neighboring states of Kentucky and Ohio offer part-day programs between 2.5 and 3.5 hours daily. Michigan provides part-day programs at 3 hours per day and full-day programs at 6-7 hours per day. In Illinois, program hours are determined locally but must be at least 2.5 hours per day (NIEER, 2011).

One barrier to funding and implementation of prekindergarten programs in Indiana has actually been the debate on funding and implementation of full-day kindergarten (FDK). From 1999 to 2012, policymakers, three governors, education leaders, and other stakeholder groups debated the merits of full-day kindergarten programs and funding. Indiana historically has allowed kindergarten students to be weighted at .5 or half a student in the student enrollment counts for funding purposes. While FDK programs consumed the attention of the early childhood education debate, state leaders reasoned that the discussion on prekindergarten program funding would have to wait until FDK had been adequately addressed.

The Indiana General Assembly created the Full-Day Kindergarten Grant Program in 2001 and included $10 million annually in the state budget. Over the next 10 years the funding level of this grant program was significantly increased. In 2012, the Indiana General Assembly made a substantial commitment to guarantee $2,400 per student through the state Full-Day Kindergarten Grant Program. These funds are in addition to the funding generated through the school funding formula where kindergarten students are counted at the .5 weight, bringing the total funding to approximately $5,000 per student. As a result, it was announced on December 10, 2012, that state funding for the FDK Grant Program would increase by $107.9 million, to a total of $189.8 million for the 2012-13 school year (Indiana Department of Education [IDOE], 2012c). The funds were distributed on December 14, 2012, to 338 public school corporations and charter schools for the 79,110 students who enrolled in full-day kindergarten programs this school year. In the 2011-12 school year, 66,401 students were enrolled in full-day kindergarten programs, with a total state funding distribution of $81.9 million (IDOE, 2012c).

Questions linger over whether this funding support for FDK will be sustained over time; however, the conversation on early education is now turning to the issue of publicly funding prekindergarten programs in Indiana. At the time of this publication, several bills have been introduced for consideration during the 2013 session of the Indiana General Assembly. While some of the bills call for expansive program implementation, other bills filed by the majority party focus on the creation of a pilot program to allow for implementation in a handful of counties.

This Education Policy Brief will revisit the evidence of the benefits and impact of prekindergarten programs as documented in the 2006 report, and provide updated information on policy and program developments around the United States. Key questions will be examined concerning the design of high-quality prekindergarten programs; the state's role in oversight and financial support; and costs of targeted, high-quality programs. The brief concludes with the highlight of the perspectives of leaders of three highly regarded business, education, and non-profit organizations, and their advocacy for early childhood education.

WHY SHOULD INDIANA IMPLEMENT PREKINDERGARTEN PROGRAMS?

The Case for Prekindergarten Programs

Seven years ago, we highlighted the extensive research evaluating the impact of high-quality early education programs (Conn-Powers, Cross, & Zapf, 2006). Research studies and program evaluations had demonstrated, at that time, "numerous positive short- and long-term educational, social, and economic outcomes, especially for children in families of poverty" (p. 2). Much of this research focused on the impact of three very high-quality early education programs (Karoly, Kilburn, & Cannon, 2005): the Abecedarian Preschool Program (Campbell et al., 2002), the High/Scope Perry Preschool Program (Schweinhart, 2004), and the Chicago Child-Parent Center Preschool Program (Reynolds, Temple, Robertson, & Mann, 2001).

Since our initial brief, researchers have used new and more sophisticated research methodologies to analyze the collective impact of previous high-quality evaluation studies (Camilli, Vargas, Ryan, & Barnett, 2010; Heckman & Masterov, 2007). These meta-analyses have further substantiated the significant impact that high-quality preschool has on children's learning and development, particularly for children who are at risk (e.g., poverty, race, disability) (Barnett, 2011; Pianta, Barnett, Burchinal, & Thornburg, 2009). Children who are at risk experience large gaps in their learning and development. These gaps are observed as early as 18 months of age (Snow, 2002), and manifest themselves when children turn five years of age and lack the skills and competencies critical to school success (Pianta et al., 2009).

Camilli and his colleagues (Camilli et al., 2010) reviewed 123 previously conducted studies of early education interventions, including studies examining the three model programs identified above. They found that preschool education does have a significant impact on children's learning, particularly children's cognitive development and, to a lesser extent, children's social-emotional development. Improvements in cognitive and social development ensure that children have the critical school readiness skills that will enable them to enter and successfully participate in the rigors of kindergarten education. However, Camilli, and an earlier meta-analysis study by Karoly, Kilburn, & Cannon (2005), found that these positive effects do decline over time to half of their initial effect size before leveling off and persisting through the remainder of school (Barnett, 2011). As Barnett (2011) pointed out, this decline may be a result of schools expending additional and expensive resources to help children who did not attend preschool catch up.

Although these studies are informative and in particular illustrate the benefits of multi-year intensive early childhood education, some key features of the three local programs may not be scalable as com-

ponents in a state-funded program. The reality of prekindergarten implementation is that states likely cannot afford the multi-year, multifaceted strategies found in these study programs, so expectations of outcomes must be tempered and should be reflective of the scope of each state's program. A growing body of research has begun to look at the impact of state-funded programs, which merits some discussion here. These studies also identify strong positive effects of state programs on cognitive development, but speak less to the long-term social and economic benefits of prekindergarten programs.

One insightful study from 2007 (Barnett, et al.) evaluated how five state prekindergarten (Pre-K) programs affected children's receptive vocabulary, math, and print awareness skills. Taking advantage of each state's strict enrollment policy determined by a child's date of birth, a regression-discontinuity design was used to estimate effects in Michigan, New Jersey, Oklahoma, South Carolina, and West Virginia. The largest impact of these programs was for print awareness, where all five coefficients were positive and four were reliable in Michigan, New Jersey, South Carolina, and West Virginia. The effect sizes, while generally positive, were smaller, and not consistent across the five states for gains in receptive vocabulary and math. The researchers indicated that the five states were not randomly selected and, on average, had higher quality program standards than non-studied states, precluding formal extrapolation to the nation at large. However, the study sample of states differed in many other ways, permitting the conclusion by the researchers that state pre-K programs can have positive effects on children's cognitive skills, though the magnitude of these effects vary by state and outcome (Barnett et al, 2007).

A comparable evaluation study was conducted by researchers from NIEER of the New Mexico prekindergarten initiative that serves a portion of its four-year-old children, beginning in its first year of operation in the 2005-06 school year. This evaluation included four main components: 1) examination of the benefits received by children who participate in Pre-K, 2) investigation of Pre-K classroom quality, 3) an analysis of the economic impacts of the Pre-K program, and, 4) compilation of information about parent and provider perceptions toward the Pre-K initiative through focus groups. The study found that the prekindergarten program produced meaningful impacts on young children's language, literacy, and math development; and overall classroom quality was good, but some improvements were needed, particularly in classroom support for early mathematics. The study also found that impacts of prekindergarten programs and classroom quality are similar for sites administered by the state Public Education Department and the state Children, Youth and Families Department; and, an estimated $5 in benefits was generated in New Mexico for every dollar invested in New Mexico Pre-K (Hustedt, Barnett, Jung, & Goetze, 2009).

The work of Heckman has shown that not only is early education effective, it is one of the best tools that policymakers can use to promote strong educational and societal outcomes for all children.

(Heckman & Masterov, 2007)

Most recently, a study released in 2012 examined the impact of the Texas state prekindergarten program, a targeted program for low-income children, on scores on grade 3 state tests (Andrews, Jargowsky, & Kuhne, 2012). The researchers compared scores for children at the school district level before and after the introduction of the prekindergarten program, using a number of statistical controls. Positive effects ranging between 5 to 10 percent of a standard deviation on test scores were found, with the largest effects for children who were both economically disadvantaged and limited English proficient. Whitehurst argues that the effects identified in this study are not trivial; however, he suggests that the prekindergarten program in Texas only helped to close achievement gaps that are one standard deviation on state test scores by one-tenth (Whitehurst, 2013).

The Economic Return on the Investment

Researchers, including many economists, have conducted cost-benefit analyses using accepted methodologies for many early childhood programs identified as having favorable effects, including prekindergarten programs. For those programs with benefits that could readily be expressed in dollar terms and those that served more-disadvantaged children and families, the estimates of benefits per child served, net of program costs, range from about $1,400 per child to nearly $240,000 per child (Karoly et al., 2005). Viewed another way, the returns on the investment (ROI) to society for each dollar invested extend from $1.80 to $17.07 (Karoly et al., 2005). The ROI translates into significantly reduced public expenditures on educational programs (such as remediation, grade retention, and special education services), reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity contributing to additional tax revenue.

Temple and Reynolds' research on the economic returns on investment identified a narrower, but still beneficial, return on the investment from the Abecedarian Preschool Program, the High/Scope Perry Preschool Program, and the Chicago Child-Parent Center Preschool Program longitudinal studies that extended well into adulthood of the treatment and control groups. The ROI they identified was in the range of $4 per $1 invested to $10.15 per $1 invested (Temple & Reynolds, 2007). A more recent review of these studies, conducted by James Heckman, noted Nobel laureate in Economics at the University of Chicago, and his colleagues, indicates that every dollar invested in high-quality early childhood education produces a 7-10% per annum return on the investment (Heckman, Moon, Pinto, Savelvev, & Yavitz, 2010). The work of Heckman has shown that not only is early education effective, it is one of the best tools that policymakers can use to promote strong educational and societal outcomes for all children (Heckman & Masterov, 2007).

HOW SHOULD PREKINDERGARTEN BE DESIGNED?

While research demonstrates positive effects of early education, not all early childhood programs bring about these educational, social, and economic outcomes. Pianta, Barnett, and their colleagues (Barnett, 2011; Pianta et al., 2009) have reviewed research examining the impact of three types of early education programs: child care, Head Start, and public school prekindergarten. Barnett's review of the research found that "child care has the smallest effects on children's learning and development" (2011, p. 2). Evaluations of the federal Head Start program (the National Impact Study conducted by Puma et al., 2005) have shown modest effects, but these effects appear to disappear over time as children who did not participate in Head Start catch up. Again, this fadeout is possibly due to the expensive remediation efforts mounted by elementary schools. The major finding from Barnett and Pianta's reviews of the research is that programs must be of high quality and engage in instructional practices that are aligned with current research evidence (Barnett, 2011; Pianta et al., 2009). "Generally, research finds that programs with the largest and longest lasting effects are more educationally intensive and expensive" (Barnett, 2011, p. 3). Barnett's National Institute for Early Education Research (NIEER) conducts annual evaluations of state prekindergarten programs. Figure 1 presents the current quality program standards used by NIEER in their 2011 review of state efforts (Barnett, Carolan, Fitzgerald, & Squires, 2011). Barnett's (2011) review of the research reinforces some of these features of effective preschool programs, including highly educated and better paid teachers, small class sizes, and teacher-child ratios that ensure increased individualized instruction.

Pianta and his colleagues (2009) have cited research that questions some of the more structural program standards presented above, and make the case that the quality of teaching practices matter the most. In their paper examining the alignment of research evidence and state early education policies, Pianta et al. (2009) suggest the need for states to focus more on process elements that look at the type and quality of teachers' interactions with children.

What are the critical elements of effective early education programs that bring about meaningfully significant educational, social, and economic outcomes? A predominant theme among researchers is the finding that highly effective early education programs are strongly educationally focused (Camilli et al., 2010; Pianta et al., 2009). This means that programs have clear educational goals with an emphasis on school readiness, and primarily engage in instructional practices designed to reach those educational goals. The National Center on Quality Teaching and Learning (NCQTL) has put forth a Framework for Effective Practice Supporting School Readiness for All Children (2013) that illustrates the practices associated with programs having an intensive educational focus (see Figure 2).

Figure 1. NIEER's Checklist of Quality Program Standards

1. Comprehensive early learning standards
2. Lead teachers with a bachelor's degree
3. Lead teachers with specialized training in prekindergarten
4. Assistant teachers with Child Development Associate (CDA) or equivalent
5. Inservice training for a minimum of 15 hours per year
6. Maximum class size of 20 children
7. Staff-child ratio of no more than 1 adult per 10 children
8. Required screening and referral for vision, hearing, and health; at least one additional family support service
9. At least 1 meal per day
10. Ongoing site monitoring to ensure programs meet state standards

Engaging Interactions and Environments

The Framework's Foundation represents effective, engaging interactions and environments that include well-organized and managed classrooms, social and emotional support, and instructional interactions that stimulate children's thinking (Pianta, LaParo, & Hamre, 2008). The quality of teacher's interactions with children, including the level of social-emotional support and instructional quality, is closely associated with positive school readiness outcomes (Burchinal et al., 2008; Burchinal et al., 2010; Mashburn et al., 2008; Pianta, 2003). Camilli's meta-analysis (Camilli et al., 2010) found that preschool programs that had strong direct instruction and individualized instruction components had the greatest impact on children's cognitive skills. Burchinal and her colleagues (2008; 2010) have found that significant gains in achievement occur only when the quality of teacher-child interactions are quite high, as measured by the Instructional Support dimension of the CLASS (Classroom Assessment Scoring System) (Pianta, LaParo, & Hamre, 2008). The CLASS is a well-researched, valid, and reliable observation tool for measuring the quality of teachers' interactions with children. It rates classrooms on a 7-point scale along three dimensions: Emotional Support, Classroom Organization, and Instructional Support (Pianta et al., 2008). Burchinal's (2010) research suggests that early education programs need to score at a minimum of 3 or higher on the Instructional Support dimension before significant gains in achievement occur.

Indiana child care and early education programs fall below this minimum rating on the CLASS. In a recent study, Conn-Powers and his colleagues (Conn-Powers, Cross, & Dixon, 2013) invited Indiana licensed child care centers, Head Start Programs, and public school prekindergarten programs to participate in a study examining the quality of early education in the state. A total of 81 classrooms participated in the study, representing a cross section of the three types of programs throughout the state, but not necessarily representing a cross section of programs based on child care quality (as measured by the state's Paths to QUALITY™). The CLASS was used to evaluate the quality of

teacher-child interactions. Conn-Powers et al. (2013) found few classrooms that met the threshold of quality instructional support strategies identified in Burchinal's research, with programs scoring an average of 2.47 on the Instructional Support dimension. While Conn-Powers found no differences in the overall CLASS scores among the three types of programs, he and his colleagues did find that programs participating in the Paths to QUALITY™ program at a Level 3 scored lower overall (M=2.04), and significantly lower than programs that were nationally accredited, such as the National Association for the Education of Young Children accreditation (M=2.82, $p<.05$) on the CLASS Instructional Support Dimension.

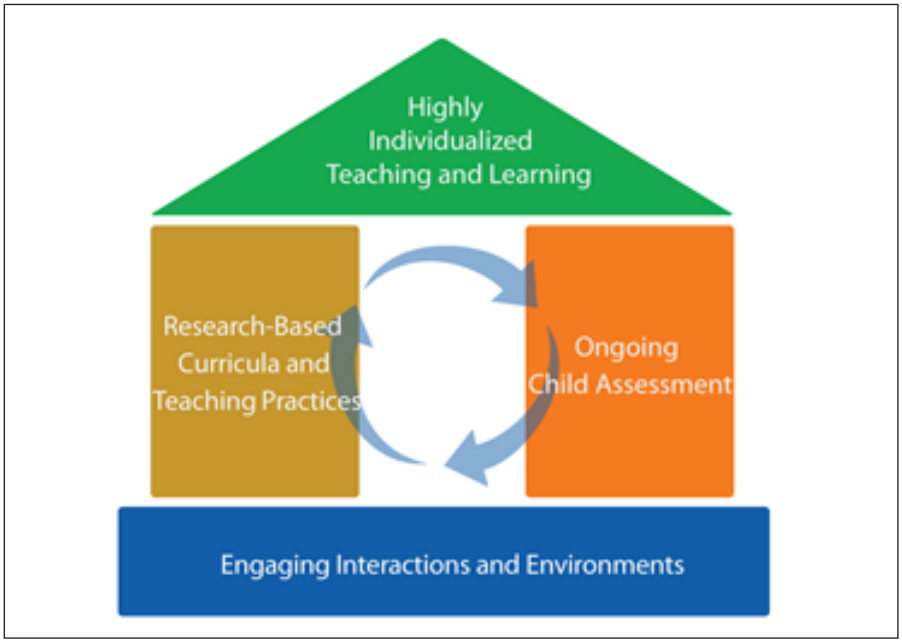
Research-Based Curricula and Teaching Practices

The Framework's First Pillar provides guidance on what to teach and how to teach, and together bring about important school readiness goals. The Preschool Curriculum Evaluation Consortium's (2008) review of several early education curricula found that some curricula do not bring about important educational outcomes in young children. In its final report to Head Start, major researchers on the Advisory Committee on Head Start Research and Evaluation (U.S. Department of Health and Human Services, 2012) outlined specific criteria for curriculum selection. Among them is the criterion that the curriculum should have a well-defined scope that targets important school readiness goals, such as those outlined in the Foundations to the Indiana Academic Standards for Young Children. In addition, strong research evidence should exist that demonstrates the curriculum's significant and meaningful impact on children's learning—preferably from research completed by teams without ties to the developer. The Conn-Powers et al. (2013) study of 81 early education classrooms in Indiana found only 2 classrooms used a curriculum with strong evidence showing any significant impact on children's school readiness outcomes. Neither the Paths to QUALITY™ rating scale nor national accreditation contributed to programs choosing strong evidence-based curricula that contributes to children's achievement.

Ongoing Child Assessment

The Framework's Second Pillar emphasizes the importance of implementing a data-based model for monitoring the progress of children and the program's overall impact. The importance of this element cannot be emphasized enough. It ensures ongoing attention to children's progress to determine when current teaching practices are or are not working and should be changed. It also promotes continuous program improvement based on program impact; and provides an important measurement of the state's impact on children. Adopting a data-based approach to any effort Indiana might undertake will be critical for assuring successful outcomes, both for children and for the state as a whole. While public schools in Indiana are required to conduct ongoing child assessment in serving preschool-aged children with disabilities, as well as local Head Start programs, similar requirements for child care and other preschool efforts do not exist. Fortunately, Indiana has a readily available tool and system for programs to use that meet these assurances, the Indiana Standards Tool for Alternative Reporting-Kindergarten Readiness (ISTAR-KR). The ISTAR-KR, developed by the Indiana Department of Education, is a valid and reliable web-based tool for ongoing child assessment. It is made available, at no cost, to all child care and early education programs in Indiana.

Figure 2. Framework for Effective Practices Supporting School Readiness for All Children*



*National Center on Quality Teaching and Learning, 2013

Highly Individualized Teaching and Learning

The final element from the National Center on Quality Teaching and Learning's Framework, the Roof, recognizes that children vary widely in their skills, knowledge, backgrounds, and abilities. This key element emphasizes instruction that effectively reaches all children regardless of their culture, native language, and ability level. This last element is critical for three reasons. First, it recognizes that early education programs will serve a diverse population. Children will vary based on family income level, ethnicity and culture, language, and the absence/presence of a disability. An effective early education program must be effective for all children and will not have the luxury of choosing which group of children it can and will serve. Second, research cited earlier (Camilli et al., 2010) found that programs with a strong individualized instructional component were among the most effective. Finally, Indiana has a well-developed early education program for children with disabilities through its public school system. Efforts to fund and support greater access to high-quality early education could build on and integrate these resources to insure that effective learning occurs for all at-risk children.

The challenge is to align state policy with research. Early education programs must

be of sufficiently high quality in order for desired school readiness outcomes to occur. Were Indiana to adopt lower standards of service or program quality (e.g., Level 3 on Paths to Quality™), then it is likely that benefits would be minimal and would likely disappear once children move into kindergarten (U.S. Department of Health and Human Services, 2010).

WHAT IS THE STATE'S ROLE IN A PUBLICLY FUNDED PRE-KINDERGARTEN PROGRAM?

It is important that Indiana require early education programs meet high standards of quality. The research is very clear—minimum standards will not be sufficient in bringing about desired educational outcomes among at-risk children, nor maximize the state's investment in the program. Standards, such as those promulgated by NIEER (Barnett et al., 2011), are important in advocating for high-quality programs, particularly programs that incorporate highly qualified and comparably paid early education teachers with appropriate class sizes and teacher-child ratios. Fortunately, Indiana has access to many resources that would enable it to adopt high-quality standards as articulated in the National Center on Quality Teaching and Learning's Framework for Effective Practice. First, national accreditation systems exist, such as the one carried out by the National Association for the Education of Young Children, that provide an initial benchmark for program quality. This initial benchmark can be easily supplemented by adding ongoing program monitoring using tools that measure teaching quality, such as the CLASS assessment tool (Pianta, LaParo, & Hamre, 2008), and, establishing minimum CLASS benchmarks (e.g., ≥3 in the Instructional Support dimension), such as the national Head Start program is doing with all local Head Start programs throughout the country.

A second resource available to Indiana early educators is the Institute of Education Sciences' What Works Clearinghouse (Institute of Education Sciences, 2013) that presents research evidence on many early education models and curricula. The information and evidence provided for each model or curriculum offers a program description and reviews the related research base to determine the quality of the research. For those with sufficient validity and reliability, each report then describes the significance and size of the impact on children's learning. The state of Indiana could use this resource to identify a list of approved curricula from which eligible early education programs can choose. Conn-Powers' (Conn-Powers et al., 2013) findings strongly underscore this point—current rating systems and national accreditation are insufficient in encouraging programs to adopt strong evidence-based curricula and teaching practices.

The research is very clear—minimum [program] standards will not be sufficient in bringing about desired educational outcomes among at-risk children, nor maximize the state's investment in the program.

A third resource available to Indiana early educators is the ISTAR-KR. Used by school districts since 2004, it provides an excellent tool for measuring and reporting children's ongoing progress. The ISTAR-KR is aligned with the Foundations to the Indiana Academic Standards for Young Children, and has undergone extensive testing to ensure it is a valid and reliable tool for assessing children's ongoing learning and progress. The tool enables and encourages teachers to collect data for determining if individual children are making adequate progress, and to shift instructional practices if they are not. Program administrators and state policymakers can use the information gained from the ISTAR-KR to evaluate the overall impact that individual programs and the state as a whole are having on the children they serve. The ISTAR-KR provides a unique measure for assessing how well children are performing compared to typically developing peers on a continuum of skills leading to success in kindergarten, and to track children's progress once they are in school.

The fourth and final resource available to Indiana includes a variety of early childhood education efforts, notably Head Start, public school Title I, and early childhood special education programs. Each of these programs have a long history of working to address the individual and collective educational needs of children who are at risk for experiencing school failure (Bailey et al., 2005; Hebbeler et al., 2007; Hebbeler, Spiker, & Kahn, 2012; Trohanis, 2008; U.S. Department of Health and Human Services, 2012). A successful publicly funded early education effort in Indiana should explore avenues to build on and take advantage of these existing resources. For example, public schools and Head Start programs can blend existing funds with new state dollars to expand their programs to serve additional children more efficiently and economically. It no longer makes fiscal sense, nor does the research literature (Odom, Buysee, & Soukakou, 2011) support, isolated and segregated early education programs that work independent of one another. By working with and integrating these existing efforts, Indiana can easily address the last quality standard of providing highly individualized teaching and learning opportunities to children who need them the most.

Indiana Education Roundtable Report

Education and business leaders, along with policymakers, have embarked on gathering research specific to Indiana's existing early education program and services. In March 2012, the consulting firm DVP-PRAXIS LTD released, *Report to the Legislative Interim Study Committee on Education: Early Childhood Education Policies and Programs*, as commissioned by the Indiana Commission on Higher Education on behalf of the Indiana Education Roundtable. This report explored three questions, phrased as follows:

- What are the conclusive research findings on key issues regarding early childhood education?
- What are some examples of high-quality early childhood education in Indiana, and how did these communities implement programs absent a statewide policy imperative?
- What are the challenges and opportunities for Indiana in developing and sustaining a statewide early childhood education program?

The report's findings primarily utilize information gathered from site visits to Elkhart & St. Joseph County (Start Early: The Family Connection and Head Start Elkhart & St. Joseph Counties Consortium), the Metropolitan School District (MSD) of Lawrence Township, MSD of Warren Township, and the Evansville-Vanderburgh School Corporation (Culver Family Learning Center, Evansville, IN), as well as interviews conducted with Allen County (Fort Wayne Community Schools), Bartholomew County (Busy Bees Academy, Columbus, IN), and Fayette County (Fayette County Head Start).

The interviews suggested widespread local and community-level support for early childhood education programs, despite the lack of state funding. With that said, the report identifies funding as the largest obstacle facing these programs, with communities relying on a mixture of tuition fees, philanthropy, and federal sources such as Head Start, Title I funds, and special education funds.

Because statewide databases do not necessarily include a student's prekindergarten experiences, the report could not analyze the impact of Indiana's early childhood education programs on later academic performance. Some sites did share program-specific and anecdotal data that suggested a positive effect on later student outcomes. The report notes that several longitudinal studies are in progress that should yield more meaningful results.

Based on its analysis, the report concludes with a number of recommendations that should be considered by the legislature and government leaders in conjunction with the research summarized in this brief and best practices gleaned from other states. The recommendations included:

1. The State's direction and role in early childhood education (ECE) require greater clarity;
2. Local autonomy for ECE programs is an asset and should be preserved;
3. Non-traditional funding sources and mechanisms can be effective tools to support ECE development statewide;
4. Given limited state resources, Indiana should leverage national and local resources whenever possible;
5. Improve longitudinal data collection and statewide research;
6. Increase communication and networking opportunities among the ECE community in the state; and
7. There are broad implications for the pre- and post-ECE aspects of the education pipeline.

PRE-K FUNDING AND COST ESTIMATES: WHAT ARE THE POTENTIAL COSTS TO INDIANA?

State Revenue Sources

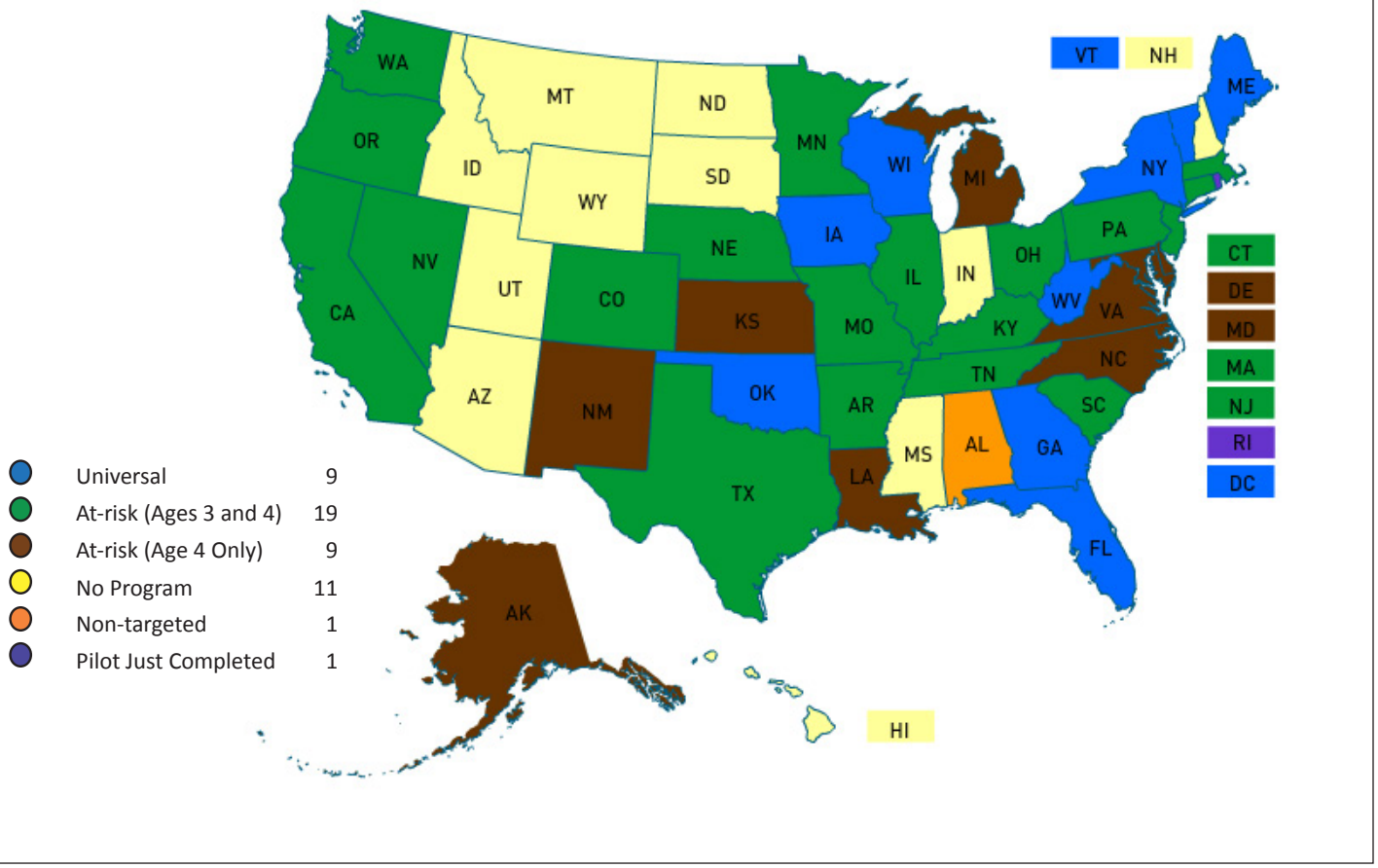
As alluded to in the Roundtable study, multiple funding sources will be necessary to support ECE development and expansion in Indiana. In other states, state government provides the core funding for prekindergarten programs, most commonly from general revenue, dedicated funds, or state school funding formulas. The average amount spent per child by states was $4,847 and $4,198 for Indiana's neighboring states in 2011 (NIEER, 2011). Each of the revenue sources typically available to states has benefits and challenges, which are discussed here.

1. **General Revenue:** The majority of states (36) providing prekindergarten programs utilize general revenue as a funding mechanism (NIEER, 2011). General revenue comes from a range of state taxes and fees, including sales tax, individual and corporate taxes, and other sources. General revenue is a flexible source and can remain stable once established. At the same time, this source can be influenced by political conditions, as well as the state economic climate to create competition for tight resources among programs geared toward young children. This latter concern was realized as an outcome of the Great Recession of 2008 as many states cut program funding resulting in lower per-child funding amounts. According to NIEER, average prekindergarten funding in the U.S. decreased by $700 per child from the 2000-01 school year to the 2010-11 school year (NIEER, 2011).
2. **Dedicated Funds:** Dedicated funds are used to fund prekindergarten programs in several states (Stone, 2006). California's Proposition 10 generates funding for its California Children and Families Trust Fund Account through a tax on cigarettes and other tobacco products (First 5 California, 2013). Louisiana's Quality Education Support Fund uses "8(g) funds" that the state receives from a 1953 federal settlement over offshore drilling and development (Louisiana Board of Elementary and Secondary Education, 2013; NIEER, 2011). Tobacco settlement money is used by Kansas and Maine (NIEER, 2011). The advantage of using these funds for prekindergarten is that they do not draw on general revenue funds and so reduce competition for early childhood resources. The challenge of dedicated funds is variability in annual revenue, particularly from the lottery and gaming sources. Furthermore, tobacco settlement money will end at some point.
3. **School-funding Formula:** Prekindergarten programs are funded as part of the state school funding formula in 24 states: Colorado, Connecticut, Florida, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Michigan, Nebraska, New Jersey, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin (NIEER, 2011). In these states, prekindergarten education is part of school reform efforts. This approach to funding affords considerable stability to prekindergarten, assures districts a known enrollment-based per-child funding rate to use in planning, and is less likely to be withdrawn than some of the other funding methods. The challenge is getting the initial buy-in for improved school readiness outcomes for young children in order to increase tax revenues or make reduction in expenditures elsewhere, if sufficient tax resources are not available.

Federal Funding

States supplement their resources by incorporating Title I and Individuals with Disabilities Education Improvement Act (IDEA) funds for school improvement and special education. Head Start funding is drawn into the mix while retaining the federal enrollment and implementation standards. Likewise, Temporary Assistance for Needy Families (TANF), Even Start, and child care grants have been used for children whose families meet income and other eligibility criteria.

Figure 3. State-Funded Prekindergarten Programs



Local Funds and Parent Fees

A majority of the states that offer prekindergarten serve children in a range of settings from public schools to private child care and church preschools. Eleven states require a local match that can be in the form of in-kind space or services in these non-school settings (NIEER, 2011). Some states also ask families to pay a fee for children's attendance, which occurs in Alabama, California, Connecticut, and Ohio (California Department of Education, 2012; NIEER, 2011). In addition, local philanthropies, community-based partnerships, and/or local units of government may contribute resources in order to expand prekindergarten opportunities to a broader number of families with the aim of improving local education outcomes. An example of this type of community-based initiative can be found in Columbus, Indiana.

Columbus Referendum

In the absence of a state-funded program in states like Indiana, a number of communities have launched their own initiatives to provide high-quality prekindergarten options. However, by primarily relying on private donations and parental fees, these programs face many funding challenges and have difficulty expanding.

A partnership between the Bartholomew Consolidated School District and the Community Education Coalition, which represents school, business, and community leaders, Columbus' program serves approximately 180 students, half of whom receive scholarships to significantly reduce their cost of attendance (Moxley, 2012a). A lottery system allocates these scholarships among a waiting list; some low-income students who do not win a spot through the lottery will receive scholarships from the Community Education Coalition to attend private programs.

Given the program's resource limitations, Bartholomew Consolidated School District asked voters to approve a tax levy of 5 cents per $100 of assessed value to generate a maximum of $1.8 million annually for seven years, or $12.6 million (Frazee, 2012). The referendum would allow for increased enrollment, expanded programs from half-day to full-day, and an increase the number of scholarships available. However, on November 6, 2012, the referendum failed by a vote of 46 percent to 54 percent (Bartholomew County, 2012). Lisa Deaton, director of We the People Indiana, a group that opposed the referendum, told The Republic, "No one out there wants parents of four-year-olds not to have options… We're just not sure it's a program the public should pay for" (Clark, 2012). Proponents of the referendum contend the defeat was in part due to the ballot language, restricted by law, that lacked any information about how the money would be used. In the wake of the defeat, community leaders say they will need to rethink their funding model (Moxley, 2013). In doing so, many of the community and business leaders from Columbus have now turned their attention to the Indiana General Assembly with hopes for state funding.

Fiscal Impact Projections

Due to the limited resources that policymakers have at their disposal to invest in new state government programs, few states have had the capacity to implement universal prekindergarten programs that are available to all three- and/or four-year-olds. Most states target tax resources for at-risk children only, primarily four-year-olds.

In 2010-11, 39 states offered state-funded prekindergarten programs (see Figure 3). As in our 2006 Education Policy Brief, these states include the four states surrounding Indiana (Illinois, Kentucky, Michigan, and Ohio). These 39 state-funded prekindergarten programs range from programs targeting at-risk three- or four-year-olds only to universal systems. Many states recognize the importance of prekindergarten programs and have announced intentions to expand their existing programs in coming years as state budgets stabilize (NIEER, 2011). As with most of the states (28) that fund prekindergarten programs, legislative discussion in Indiana has also centered on a targeted prekindergarten program for low income four-year-old children. For that reason Table 1 provides estimates of the number of at-risk four-year-old children in Indiana, using the U.S. Census Bureau single year of age population estimate, and assumes a 48.2 percent free-and-reduced lunch incidence rate to identify Indiana's population of at-risk four-year-olds, which equals the incidence rate among Indiana's K-12 students in 2011-12. Subtracting Head Start and special education preschool enrollments from this table results in an estimate of approximately 30,639 at-risk four-year-old children not currently enrolled in publicly funded early education programs.

Table 2 estimates total costs of a targeted program using three per-pupil amounts: the National Institute of Early Education Research's (NIEER) cost estimate for an optimal program in Indiana, the median cost to Indiana's neighbor states in providing pre-school programs, and the U.S. average cost of state pre-school programs. Separate estimates for 100 percent and 95 percent participation rates are included. Using the 95 percent participation estimates, potential costs to Indiana to provide targeted prekindergarten programs to all at-risk four-year-olds who are not served by Head Start or preschool special education funding ranges from a low of approximately $120 million (cost estimate uses $4,130 from "Estimate of per-child spending needed to meet NIEER benchmarks" for Indiana) to a high of $141 million when using the U.S. average cost per child of $4,847 (NIEER, 2011).

In evaluating the costs of such a program, policymakers must consider the return on investment (ROI). As mentioned earlier, research has estimated substantial ROIs for high-quality prekindergarten programs. In other words, any initial investment is compared against any expected future spending on remediation, Medicaid, welfare, incarceration, and other education and social services spending that might result from early education disparities.

Another consideration for overall program cost is the participation rate. Even with state funding to defray the cost of prekindergarten services, not every eligible four-year-old will be enrolled in the program. Some families will elect to keep their child at home or to enroll their child in a basic child care program. Among the state-funded prekindergarten programs in neighboring states, enrollments range from 18 percent in Michigan to 31.9 percent in Kentucky. Our cost estimate, which assumes a high participation rate, likely overestimates the costs of providing this program.

Table 1. Four-Year-Old Population Estimates for Indiana

Indiana's Four-Year-Olds	All (2011)	At Risk (2011)[1]
Four-year-old pop. est.	88,691[2]	42,749
- Four-year-old Head Start enrollment	-9,147[3]	-9,147
- Four-year-old Special Ed enrollment	-6,147[4]	-2,963
Total	73, 397	30,639

[1] Estimates of free/reduced lunch eligible four-year-olds using 2011-12 K-12 incidence rate of 48.2% (IDOE, 2012a)

[2] State Single Year of Age and Sex Population Estimates (U.S. Census Bureau, 2011b)

[3] Head Start enrollment by age group (Number), National KIDS COUNT Program (Annie E. Casey Foundation, 2011)

[4] Individuals with Disabilities Education Act (IDEA) Data, Part B Child Count (Data Accountability Center, 2012)

Table 2. Pre-K Cost Estimates

	NIEER Estimate of Optimal Program in Indiana ($4,130/child)[1]	Neighbor States' Median Cost ($4,198/child)[2]	U.S. Average Cost ($4,847/child)[3]
Targeted program for at-risk four year olds not currently in existing federally-funded programs assuming 100% participation	$126,539,070	$128,607,203	$148,507,233
Targeted program for at-risk four-year-olds not currently in existing federally-funded programs assuming 95% participation	$120,212,117	$122,176,842	$141,081,871

[1] Cost estimate uses $4,130 from "Estimate of per-child spending needed to meet NIEER benchmarks" for Indiana (NIEER, 2011)

[2] Cost estimate uses figures from "All reported $ per child enrolled in pre-K" for Illinois, Kentucky, Michigan, and Ohio (NIEER, 2011)

[3] Cost estimate uses $4,847 from "All reported spending per child enrolled" for U.S. (NIEER, 2011)

Policy Perspective

Circumstances at Birth

M. Kem Hawkins

The very first bullet point in the U.S. Department of Education's mission statement calls for access to "equal educational opportunity" for every individual.

Because the phrase "equal opportunity" has become so common, it bears taking a moment to examine its meaning carefully in the context of education. Merriam-Webster defines "opportunity" as "a good chance for advancement or progress." It defines equal as "like for each member of a group, class or society" and "not changing; the same for every person."

If we adopt Webster's definitions, then, equal educational opportunity means making sure every student, regardless of background or circumstance, has a similarly good chance to succeed. It means consciously and deliberately creating a level playing field for everyone.

When that playing field is not level—that is, when children's opportunities are decided by the socioeconomic circumstances of their birth—the concept of equality goes by the wayside, and social segregation occurs. Success becomes uncoupled from its natural drivers, ability and hard work, and becomes artificially linked to social situation.

We cheat ourselves as a society when this happens. By allowing circumstances to dictate opportunity, we reduce the number of high-achieving students; we negatively skew the performance metrics of our schools; and we diminish the size and quality of our workforce. Regardless of where we fall on the political spectrum, it is simply good business sense to correct this inequity. Our collective efforts should lead us to where ability trumps privilege and hard work leads to success, regardless of race, ethnicity, or economic status. Not only will this produce better students; it will produce a more qualified labor pool and a more responsible citizenry.

Early childhood education programs are not a cure-all. They cannot, alone, equalize the disparity of circumstances into which children are born. However, as a past teacher and a parent, I know that the early years are critical. Those prekindergarten years are, all too often, when the playing field begins to become uneven. If we can begin to systematically and deliberately adjust for that, we will have accomplished something truly worthwhile.

The possibility of a state-funded prekindergarten program in Indiana discussed in this brief would lay the foundation for that initiative. However, I believe there is an equally important role for volunteer contributions. Imagine an organization modeled on the highly successful Volunteers in Medicine, in which retired educators donated their time to pre-K programs run at churches, community centers, and Boys & Girls Clubs. If we are to really provide equal educational opportunity for all children, it will take both government-funded and volunteer action.

If we are to ever provide hope to all, then maximizing human capital is our only option. As both a former teacher and the current president of a $2 billion company with 10,000-plus employees, I fully endorse early childhood education programs.

M. Kem Hawkins

M. Kem Hawkins is President of Cook Group Incorporated.

Policy Perspective

Role for School Corporations in Delivery of Preschool

Cameron Rains and Tammy Miller

While the impact of high-quality preschool programming is rarely disputed in this day and age, providing the opportunity for our youngest students can be a big challenge in Indiana. It will be very difficult for school corporations to significantly increase access to preschool given the current funding structures, but we can make a dent.

A county-wide survey of preschool programming in Monroe County in 2011 sponsored by The Community Foundation of Bloomington and Monroe County highlighted two important points: 1) There were not enough "seats" for four-year-olds in the county, and 2) There were even fewer quality seats. As a school district, we felt we could assist in working toward a solution. In the 2011-12 school year, the Monroe County Community School Corporation reallocated some Title I funding to provide free preschool programming for 20 of our most at-risk four-year-olds. In partnership with the Community Foundation, we expanded to 60 seats in the 2012-13 school year and plan to further expand to 80 seats for the 2013-14 school year.

While the decision is not always popular, shifting Title I funds from a reactive remediation approach for grades K-6 to a more proactive early intervention approach can produce big achievement payoffs for students. This is one funding mechanism that can be leveraged by schools as part of the answer to preschool access. Adding free seats was not enough, especially for our most at-risk students. We had to ensure they were quality seats.

There are many approaches that can be taken to ensure quality. Our belief is that an important piece to quality is giving students access to a research-validated core curriculum. We chose the Literacy Express materials because the program had the highest ratings on the USDOE What Works Clearinghouse for early learning programs. Training on program use has been provided on multiple occasions and staff members frequently discuss progress in utilizing the materials.

Another key piece is monitoring student growth. While there are many quality preschool assessments available in Indiana, we chose to begin with a focus on pre-literacy skills. We used the Individual Growth and Development Indicators to monitor student progress in the areas of alliteration, picture naming, and rhyming. Baseline scores were taken at the beginning of programming. Progress was monitored on a monthly basis and intervention was provided when students were not on pace with their growth goals. Because of our phenomenal staff constantly working to ensure that each student was progressing at an appropriate rate, we saw significant elimination of achievement gaps.

Over time, more seats can be created. Developing partnerships with local organizations like our Community Foundation can open funding avenues to preschool for more students. While state funding sources would be ideal, in the meantime we should do everything in our power to increase access to quality preschool seats. The field is at consensus on this point: high-quality preschool opportunities for our youngest students close gaps and change life trajectories for kids.

Cameron Rains

Tammy Miller

Cameron Rains is Curriculum and Instruction Specialist for the Clark-Pleasant Community School Corporation (Former Director of Elementary Education for MCCSC).

Tammy Miller is Director of Elementary Education for MCCSC.

Policy Perspective

Early Childhood Investment is Key to our Future

Barry Lessow

For 60 years, United Way of Monroe County has been helping people meet their basic needs for food, shelter, and medical care. We will continue to ensure everyone in our community has those critical needs met. At the same time, we want to decrease the demand for those essentials. Research is clear that the best way to reduce reliance on social services is to help people generate the earnings and savings necessary for financial stability. Undoubtedly the best way toward financial stability is an education that prepares people for life and career. That education begins at birth. The first five years of life provide the foundation for future success in school, on the job, and in the community.

In 2006, United Way of Monroe County (UWMC) launched a local Born Learning initiative. Part of a national program, Born Learning helps parents, caregivers, and our community support positive early childhood development. Born Learning provides easy, research-based ways to turn everyday moments into learning opportunities for young children. Around that same time, the Community Foundation of Bloomington and Monroe County (CFBMC) decided to focus considerable energies on early development. As we talked through our respective organizations' opportunities, we saw the wonderful advantages of combining our efforts. Together, CFBMC and UWMC formed a new initiative in 2009 called Monroe Smart Start, with the goal of bringing families and communities together to make sure our children enter kindergarten healthy, happy, and ready to succeed in school and in life. Monroe Smart Start includes local leaders in education, government, health and human services, as well as parents and other community members.

Barry Lessow

With funding and leadership from CFBMC, UWMC, and Smithville Charitable Foundation, we investigated the best opportunities for our community and developed a set of responses, including a one-page Kindergarten Readiness Checklist; a more-detailed Kindergarten Readiness Booklet; a locally-created children's book (B is for Bloomington) that helps children and caregivers explore our community one letter at a time; a website (www.monroesmartstart.org) with a variety of local, statewide, and national resources; and a partnership with our local pediatricians' group to distribute age-appropriate books during young children's "well visits".

These types of programs and initiatives help ensure kids are prepared for quality Pre-K slots. After conducting additional local research in 2011-2012, we recognized an opportunity to focus our attention on three major goals:

- Create more affordable, high-quality Pre-K slots for children, especially those at particular risk for future educational and economic challenges, and provide incentives to increase opportunities for local education providers to engage in professional development and move higher on Paths to QUALITY™. Thanks to a significant investment by the Community Foundation, more preschool spots continue to be created at high-quality providers, including our local public schools.

- Convene a summer 'summit' to focus community attention on the importance of early childhood, especially among those who are not yet aware of the value of investing in quality Pre-K.

- Help parents and other caregivers continue to learn the best techniques for being actively engaged in their child's development so those preschoolers can develop crucial early literacy skills.

Often, in the world of human services, we chase elusive "measurable impacts". However, the long-term benefits of investing in early childhood, especially high-quality preschool, has been extensively documented by practitioners and researchers. Quality early learning results in reduced crime, less teen pregnancy, more high school graduates, and more individual success in work and life. The value of this work, estimated at up to $17 in return for every $1 invested, is critical to our community development, including economic development.

Monroe County organizations (including the Community Foundation and United Way), educators, and parents have made a commitment to ensuring the future of our community by focusing resources—from our admittedly scarce resources—toward early childhood. Our main concern is not the merit of our Pre-K efforts, it is the sustainability of the work and the knowledge that so much more would be possible if the funds were available to invest adequately in our future.

Barry Lessow is Executive Director of United Way of Monroe County

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Benefits of High-Quality Prekindergarten Programs are Substantial

Research studies and program evaluations have demonstrated numerous positive short- and long-term educational, social, and economic outcomes, especially for children of low-income families. The return on the investment of publicly funded prekindergarten programs that are derived from academic gains translates into significantly reduced public expenditures on educational programs, reduced reliance on social services, reduced costs associated with crime and incarceration, and increased worker productivity contributing to additional tax revenue. The research provides evidence that high-quality prekindergarten programs are a sound investment that generates revenue and tax savings that exceed the program costs.

Recommendation

Indiana should weigh carefully the compelling case for high-quality prekindergarten programs and benefits for at-risk children in closing achievement gaps. A total of 39 others states have acted upon this research and are providing publicly funded prekindergarten programs. To manage the costs of the program and support the students who will benefit the most from prekindergarten programs, the state should fund targeted prekindergarten programs that are voluntary for at-risk four-year-olds. The state's evidence-based criteria should judge program quality and only fund programs that are considered high-quality prekindergarten programs.

Conclusion

Ensuring High-Quality Prekindergarten Programs in Indiana

The conversation in Indiana includes education, child care, and business leaders, who, along with policymakers, are considering a variety of rating or accreditation systems to ensure high-quality prekindergarten programs in the state. Having a rigorous accountability or rating system aligned to the research on evidence-based programs is essential to ensure that program providers, whether public or private, meet the criteria for funding. The recommendations to follow identify essential components of a framework that will contribute to high-quality prekindergarten.

Recommendation

1. *Strong educational emphasis.* The state agency with oversight responsibility must craft an accountability and funding framework that emphasizes a strong educational focus on promoting school readiness, rather than childcare—as is the focus of the Paths to QUALITY™ framework. A narrow focus on childcare will not bring about the benefits of high-quality early education.
2. *Require programs to meet high standards of quality early education.* National accreditation is the benchmark to high-quality prekindergarten programs. National accreditation programs exist, such as the one carried out by the National Association for the Education of Young Children, that provide an initial benchmark for program quality focused on school readiness. Although the accreditation standards do not sufficiently address the most recent research advances concerning effective curricula and teaching practices, these shortcomings can be easily supplemented by assessing and improving the quality of instructional support strategies used by classroom teachers.
3. *Evidence-based curricula.* The selected curriculum for prekindergarten programs should have a well-defined scope that targets important developmentally appropriate school readiness goals, such as those outlined in the Foundations to the Indiana Academic Standards for Young Children. In addition, there should be strong research evidence that demonstrates the curriculum's significant and meaningful impact on children's learning—preferably from research completed by teams without ties to the developer. An excellent resource for finding evidence-based curricula is the federally funded What Works Clearinghouse, provided by the Institute of Education Sciences. It is critical that Indiana's programs choose evidenced-based curricula if we are to achieve desired school readiness outcomes.
4. *Ongoing assessments and monitoring.* Ongoing attention to children's progress should occur in order to know when current teaching practices are or are not working and need to be changed to ensure continued learning. The Classroom Assessment Scoring System should be used to measure the quality of teachers' interaction with children and a minimum program score of 3 or above should be required for programs to receive state funds. Another reason for ongoing assessment and monitoring is that valid and reliable measurements of the program's impact on children is necessary and can be achieved by using ISTAR-KR (available at no cost to all child care and early education programs in the state). Adopting a data-driven approach to any effort Indiana might undertake will be critical for assuring successful outcomes, both for children and for the state as a whole.

Conclusion

A predominant theme of the early education research is the finding that highly effective prekindergarten programs are strongly educationally focused (Camilli et al., 2010; Pianta et al., 2009). This means that programs have clear educational goals with an emphasis on school readiness, and primarily engage in instructional practices designed to reach those educational goals. It is important that Indiana require early education programs to meet high standards of quality. Minimum standards will not be sufficient in bringing about desired educational outcomes among at-risk children or maximizing the state's investment in the program.

Recommendation

To ensure the greatest return on the investment, the state would be well served to require a rigorous study of program outcomes. If Indiana begins to invest in prekindergarten programs on a limited basis it should consider having researchers conduct a randomized, controlled trial that assigns children to high-quality prekindergarten programs via a lottery assignment and students who are not enrolled would become the control group.

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REFERENCES

Andrews, R.J., Jargowsky, P., & Kuhne, K. (2012). *The effects of Texas's targeted pre-kindergarten program on academic performance.* Working Paper 18598. Cambridge, MA: National Bureau of Economic Research.

Annie E. Casey Foundation. (2011). *National KIDS COUNT Program: Head Start enrollment by age group (Number).* Retrieved November 30, 2012, from http://datacenter.kidscount.org/data/bystate/stateprofile.aspx?state=IN&cat=639&group=Category&loc=16&dt=1%2c3%2c2%2c4

Bailey, D.B., Hebbeler, K., Spiker, D., Scarborough, A., Maiilk, S., & Nelson, L. (2005). Thirty-six-month outcomes for families of children who have disabilities and participated in early intervention. *Pediatrics, 116*(6), 1346-1352.

Barnett, W. S. (2011). *Preschool education as an educational reform: Issues of effectiveness and access* (Rev). Retrieved from the National Academies at http://www7.nationalacademies.org/bota/equity_and_excellence_commission_workshop_barnett_paper.pdf

Barnett, W.S., Carolan, M.E., Fitzgerald, J., & Squires, J.H. (2011). *The state of preschool 2011: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research. Retrieved on January 22, 2013, http://nieer.org/yearbook

Barnett, W.S., Hustedt, J.T., Robin, K.D., & Schulman, K.L. (2005). *The state of preschool: 2005 state preschool yearbook.* New Brunswick, NJ: National Institute for Early Education Research.

Barnett, W.S., Jung, K., Wong, V., Cook, T., & Lamy, C. (2007). *Effects of five state prekindergarten programs on early learning.* Paper presented at Annual Conference of the Society for Research in Child Development, Boston. NIEER/Rutgers University.

Bartholomew County. (2012). *Bartholomew County general election 2012: Certified election results.* Retrieved from http://election.bartholomewco.com/results/history/2012General/

Burchinal, M., Howes, C., Pianta, R., Bryant, D., Early, D., Clifford, R., & Barbarin, O. (2008). Predicting child outcomes at the end of kindergarten from the quality of pre-kindergarten teacher-child interactions and instruction. *Applied Developmental Science, 12*(3), 140-153. doi: 10.1080/10888690802199418

Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (2010). Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. *Early Childhood Research Quarterly, 25*(2), 166-176. doi: 10.1016/j.ecresq.2009.10.004

California Department of Education, Child Development Division. (2012). *Management Bulletin 12-06: Family fee for part-day California state preschool program services.* Sacramento, CA: California Department of Education.

Camilli, G., Vargas, S., Ryan, S., & Barnett, W.S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record, 112*(3), 579-620.

Campbell, F.A., Ramey, C.T., Pungello, E., Sparling, J., & Miller-Johnson, S. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science, 6*(1), 42-57.

Clark, J. (2012, November 7). Voters say no to prekindergarten referendum. *The Republic.* Retrieved from http://www.therepublic.com/view/local_story/Voters-say-to-no-prekindergart_1352270893

Conn-Powers, M.C., Cross, A.F., & Dixon, S.D. (2013). [Assessing Indiana's early education classrooms].Unpublished raw data.

Conn-Powers, M., Cross, A.F., & Zapf, J.S. (2006). *Closing the achievement gap series: Part 1. Is Indiana ready for state-sponsored prekindergarten programs?* Bloomington, IN: Indiana University.

Data Accountability Center. (2012). *Individuals with Disabilities Education Act (IDEA) data: Part B child count.* Retrieved November 30, 2012, from https://www.ideadata.org/PartBChildCount.asp

First 5 California. (2013). Proposition 10 Facts. Sacramento, CA: First 5 California, California Children and Families Commission. Retrieved from http://www.ccfc.ca.gov/press/prop.asp

Frazee, G. (2012, October 15). Bartholomew County vote could publicly fund pre-k. *Indiana Public Media.* Retrieved from http://indianapublicmedia.org/news/bartholomew-county-holds-referendum-expand-prek-37997/

Gormley, W.T., Jr., Gayer, T., Phillips, D., & Dawson, B. (2005). The effects of universal pre-k on cognitive development. *Developmental Psychology, 41*(6), 872-884. doi: 10.1037/0012-1649.41.6.872

Gormley, W., & Phillips, D. (2003). *The effects of universal pre-k in Oklahoma: Research highlights and policy implications.* Washington, DC: Georgetown University, Center for Research on Children in the U.S.

Gormley, W.T., Jr, Phillips, D., & Gayer, T. (2008). Preschool programs can boost school readiness. *Science, 320*(5884), 1723-1724.

Hebbeler, K., Spiker, D., Bailey, D., Scarborough, A., Mallik, S., Simeonsson, R., Singer, M., & Nelson, L. (2007). *Early intervention for infants & toddlers with disabilities and their families: Participants, services, and outcomes.* Retrieved March 5, 2012 from http://www.sri.com/work/publications/national-early-intervention-longitudinal-study-neils-final-report

Hebbeler, K., Spiker, D., & Kahn, L. (2012). IDEA's early childhood programs: Powerful vision and pesky details. *Topics in Early Childhood Special Education, 31*(4), 199-207.

Heckman, J.J. & Masterov, D.V. (2007). The productivity argument for investing in young

children. *Review of Agricultural Economics 29*(3), 446–493.

Heckman, J.J., Moon, S.H., Pinto, R., Savelvev, P., & Yavitz, A. (2010). *A new cost-benefit and rate of return analysis for the Perry preschool program: A summary.* NBER Working Paper No. 16180.

Hustedt, J.T., Barnett, S., Jung, K., & and Linda D. Goetze, L.D. (2009).

Indiana Department of Education. (2012a). *Enrollment: Corporation enrollment by ethnicity & free/reduced price meal status.* Retrieved November 30, 2012, from http://www.doe.in.gov/improvement/accountability/find-school-and-corporation-data-reports

Indiana Department of Education (IDOE). (2012b). *Foundations to the Indiana academic standards for young children from birth to age 5* (Rev. ed.). Indianapolis: IDOE and Family and Social Services Administration, Division of Family Resources, Bureau of Child Care.

Indiana Department of Education, (2012c). *Full day kindergarten funding more than doubles.* Retrieved January 25, 2013, from http://www.doe.in.gov/news/full-day-kindergarten-funding-more-doubles

Institute of Education Sciences. (2013). *IES What Works Clearinghouse.* Retrieved January 31, 2013, from http://ies.ed.gov/ncee/wwc/reports/early_ed/cc/index.asp

Karoly, L.A., Kilburn, M.R., & Cannon, J.S. (2005). *Early childhood interventions: Proven results, future promise.* Retrieved from http://www.rand.org/pubs/monographs/MG341.html

Louisiana Board of Elementary and Secondary Education. (2013). 8(g) Grants. Baton Rouge, LA: Louisiana Board of Elementary and Secondary Education. Retrieved from http://bese.louisiana.gov/8(g)-grants

Mashburn, A.J., Pianta, R.C., Hamre, B.K., Downer, J.T., Barbarin, O.A., Bryant, D., . . . Howes, C. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development, 79*(3), 732-749.

Moxley, E. (2012a, November 5). How a Columbus preschool program hopes to become a model for the state. *StateImpact Indiana.* Retrieved from http://stateimpact.npr.org/indiana/2012/11/05/how-a-columbus-preschool-program-hopes-to-become-a-model-for-the-state/

Moxley, E. (2012b, November 15). Can other Indiana communities duplicate Columbus' successful preschool program? *StateImpact Indiana.* Retrieved from http://stateimpact.npr.org/indiana/2012/11/15/can-other-indiana-communities-duplicate-columbus-successful-preschool-program/

Moxley, E. (2013, January 9). After voters reject preschool referendum, Columbus must take different approach. *StateImpact Indiana.* Retrieved from http://stateimpact.npr.org/indiana/2013/01/09/after-voters-reject-preschool-referendum-columbus-must-take-different-approach/

National Center on Quality Teaching and Learning (2013). *Framework for effective practice: Supporting school readiness for all children.* Retrieved on January 22, 2013, from http://eclkc.ohs.acf.hhs.gov/hslc/tta-system/teaching/center/practice

National Institute of Early Education Research. (2011). *State of preschool yearbook 2011.* Retrieved January 25, 2013, from http://www.nieer.org/yearbook

Odom, S. L., Buysse, V., & Soukakou, E. (2011). Inclusion for young children with disabilities: A quarter century of research perspectives. *Journal of Early Intervention, 33*(4), 344-356.

Phillips, D.A., Gormley, W.T., & Lowenstein, A.E. (2009). Inside the pre-kindergarten door: Classroom climate and instructional time allocation in Tulsa's pre-K programs. *Early Childhood Research Quarterly, 24*, 213-228.

Pianta, R.C. (2003). *Standardized classroom observations from pre-k to third grade: A mechanism for improving quality classroom experiences during the p-3 years.* Charlottesville, VA: University of Virginia, Curry School of Education. Retrieved from http://fcd-us.org/sites/default/files/Standardized-ClassroomObservations.pdf

Pianta, R.C., Barnett, W.S., Burchinal, M., & Thornburg, K.R. (2009). The effects of preschool education: What we know, how public policy is or is not aligned with the evidence base, and what we need to know. *Psychological Science in the Public Interest, 10*(2), 49-88.

Pianta, R.C., La Paro, K.M., & Hamre, B.K. (2008). *Classroom assessment scoring system (CLASS) manual, pre-k.* Baltimore, MD: Paul H. Brookes Publishing Co.

Puma, M., Bell, S., Cook, R., Heid, C., Lopez, M., Zill, N., et al. (2005). *Head Start Impact Study: First year findings.* Washington, DC: US Department of Health and Human Services, Administration for Children and Families.

Preschool Curriculum Evaluation Research Consortium. (2008). *Effects of preschool curriculum on school readiness.* Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.

Reynolds, A.J., Temple, J.A., Robertson, D.L., & Mann, E.A. (2001). Long-term effects of an early childhoodiIntervention on educational achievement and juvenile arrest: A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association, 285*(18), 2339-2346.

Schweinhart, L. (2004). *How the High/Scope Perry Preschool study has influenced public policy. The High/Scope Perry Preschool study through age 40: Summary, conclusions, and frequently asked questions.* Ypsilanti, MI: High/Scope Press.

Snow, C. 2002. *Reading for understanding: Toward an R&D program in reading comprehension.* Pittsburgh, PA: Rand.

Stone, D. (2006). *Funding the future: States' approaches to pre-k finance.* Washington, DC: Pre-K Now.

Stone, D. (2008). *Funding the future: States' approaches to pre-k finance: 2008 update.* Washington, DC: Pre-K Now.

Temple, J.A., & Reynolds, A.J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review, 26,* 126-144.

Trohanis, P.L. (2008). Progress in providing services to young children with special needs and their families: An overview to and update on the implementation of the Individuals with Disabilities Education Act (IDEA). *Journal of Early Intervention, 30*(2), 140-151.

U.S. Census Bureau. (2011a). *2009-2011 American Community Survey.* Washington, DC: U.S. Census Bureau.

U.S. Census Bureau. (2011b). *Population estimates, state characteristics: Vintage 2011, state single year of age and sex population estimates: April 1, 2010 to July 1, 2011 – RESIDENT.* Washington, DC: U.S. Census Bureau.

U.S. Department of Health and Human Services, Administration for Children and Families (2010). *Head Start impact study. Final report.* Washington, DC: Author.

U.S. Department of Health and Human Services, Administration for Children and Families (2012). *Advisory Committee on Head Start Research and Evaluation: Final report.* Washington, DC: Author

Whitehurst, G.J. (2013). *Can we be hard-headed about preschool? A look at universal and targeted pre-k.* Washington, DC: The Brookings Institution. Retrieved from

WEB RESOURCES

National Institute for Early Education Research
www.nieer.org

National Institute of Early Education Research's State of Preschool Yearbook 2011
http://www.nieer.org/yearbook

Institute of Education Sciences What Works Clearinghouse
http://ies.ed.gov/ncee/wwc/reports/early_ed/cc/index.asp

U.S. Department of Health and Human Services, Administration for Children and Families: Head Start Impact Study
http://www.acf.hhs.gov/sites/default/files/opre/executive_summary_final.pdf

Ready Nation
http://www.readynation.org/

HighScope Educational Research Foundation
http://www.highscope.org/

The Carolina Abecedarian Project
http://projects.fpg.unc.edu/~abc/

Paths to QUALITY™
http://www.in.gov/fssa/pathstoquality/files/CentersPTQStandards.pdf

Foundations to the Indiana Academic Standards for Young Children
http://www.doe.in.gov/sites/default/files/curriculum/indiana-foundations-february-2012-2.pdf

Indiana Standards Tool for Alternative Reporting-Kindergarten Readiness (ISTAR-KR)
http://www.doe.in.gov/achievement/assessment/istar-kr

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