



## Pre-K *Counts* in Pennsylvania for Youngsters' Early School Success:

Authentic Outcomes for an Innovative Prevention and Promotion Initiative



Research Results of SPECS for Pre-K Counts:  
An Independent Authentic Program Evaluation  
Research Initiative (2005-2009)

2009 EXECUTIVE SUMMARY

# HOW IT STARTED

## Overview: Pre-K Counts in Pennsylvania:

### PKC--A State-Wide "Community" Success Story

Many young children start kindergarten and first grade with big smiles and high hopes. Yet, too many other children see those hopes dim as they slip farther beyond their classmates. The social costs—in human and financial terms—seem insurmountable.

It doesn't have to be that way. Pre-K Counts in Pennsylvania, a unique, public-private collaboration between philanthropies, state government, and innovative school district-community partnerships across 21 school districts is proving what national research has shown elsewhere: early learning in quality preschool settings is the key to helping all children succeed—now and in the future.

This executive summary highlights the major initial outcomes of a 3-year research study of over **10,000 children and their programs across the first 21 school district-community partnerships** funded under the public-private consortium of Pre-K Counts between 2005 and 2008. Where fully implemented as intended, the PKC model shows impressive and promising results. Perhaps, most importantly, PKC children are ready to succeed in kindergarten and beyond.

### What Is Pre-K Counts in Pennsylvania?

**Pre-K Counts** has been a unique public-private partnership among philanthropies and state government departments through the Office of Child Development and Early Learning (OCDEL), Commonwealth of Pennsylvania, begun in 2004.

Pre-K Counts sought to establish a consortium of business, corporate, foundation, school, and community leaders to stimulate the development of an early care and education network which would expand quality options; infuse education into child care routines; set standards for quality, professional development, and early learning; and serve as a catalyst to create and unify a "system" for prevention and care for all young children.

### What Elements Distinguish a Pre-K Counts Program?

Ramey and Ramey (1998) outlined the common factors in successful and effective early childhood intervention program research initiatives in the US over the past 30 years.

Pre-K Counts applied these evidence-based factors as guides in their funding proposal requirements to the grantees.



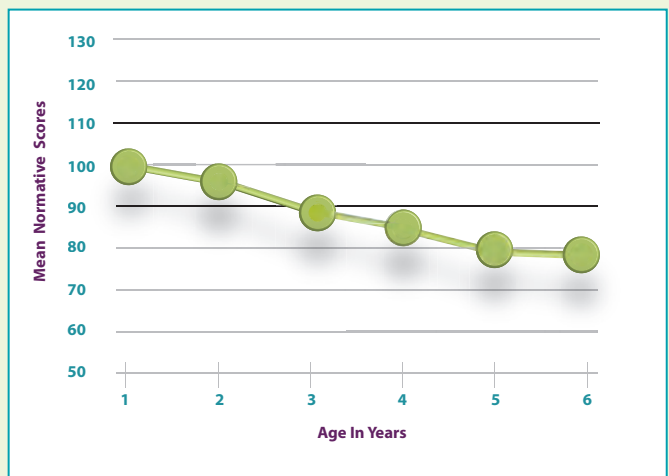
- School District-Community Early Childhood Program Partnerships
- Integration of the Pre-K "System": Head Start, Early Intervention, and Child Care
- Collaborative School-Community Leadership
- Keystone Stars Program Quality Standards
- Ongoing Mentoring to Improve Quality of Teaching and Care
- Creative Parent Participation Options
- Collaborative Agreements with Human Service Agencies
- Use of the Pennsylvania Early Learning Standards (PAELS) as Curricular Benchmarks for Early School Success
- Ongoing Formative Program Evaluation and Feedback to Focus Instruction and Communication

PKC was also based upon the scientific knowledge that children of poverty experience progressive declines in their developmental rate when they are not afforded the benefits of quality early learning experiences which occur in preschool; this lack of critical early experience occurs at a particularly sensitive period in the growth of their brain-behavior interconnections. Because of these deprivations, at the age for kindergarten and first grade, their deficits in early learning place them 1.5 years behind their more advantaged peers (**Figure 1**)

### Who Are the Children, Families, and Programs in Pre-K Counts?

- 21 PKC school-community partnerships across Pennsylvania (see last page list)
- 10,002 children, ages 3-6 years; average age = 4.3 years
- Ethnic representation: Caucasians, African-Americans, Hispanics, Asians, Native Hawaiian, Alaska Native, American Indian, and Multi-ethnic categories
- 1113 teachers in 489 classrooms across PA

**Figure 1: Graph of Research-based Developmental Declines for High-risk Children Not in Preschool** ▼



## WHAT WE DID



### How Do the SPECS Authentic Program Evaluation Research Methods Work in Pre-K Counts?

**SPECS: Scaling Progress in Early Childhood Settings** is a core program of the Early Childhood Partnerships program ([www.earlychildhoodpartnerships.org](http://www.earlychildhoodpartnerships.org)) of the University of Pittsburgh and affiliated with Children's Hospital of Pittsburgh.

**SPECS** represents a field-validated and evidence-based approach in longitudinal studies over 15 years for conducting program evaluation research in community-based early childhood intervention classrooms, settings, and routines which is developmentally-appropriate for young children. SPECS uses an **Authentic Assessment** approach (Bagnato, 2002; 2007) which is required by national professional organizations for use in the field and is part of quality professional standards by the National Association for the Education of Young Children—NAEYC; and the Division for Early Childhood (DEC) of the Council for Exceptional Children.

#### Within Pre-K Counts, SPECS methods consisted of :

- Standardized observations of ongoing child behavior in everyday routines rather than “table-top” testing”
- Reliable and valid observations by teachers and other caregivers
- Teacher training for reliable and valid observations
- Linkage of assessment and instruction through teacher feedback for individual learning plans
- Alignment of curricular content, state and federal standards, & expected outcomes
- Individual changes in each child's developmental progress profile
- Longitudinal, repeated measures, multivariate regression design to examine the interrelationship among mentoring, partnership elements, program quality and instruction, time-in-intervention, and children's early school success.

### What Were the “Core” Mandates & Research Questions Posed by Stakeholders for SPECS ?

- No exclusion of vulnerable preschoolers from PKC for research purposes—ethical design
- Is participation in Pre-K Counts associated with children's gains in important functional competencies to improve their early school success? (Did it work?)
- What programmatic elements of Pre-K Counts are associated with children's success? (Why did it work?)

### What Were the Indicators for Children's Success in Pre-K Counts?

- Acquisition of essential early school success competencies in the PA Early Learning Standards (PAELS)
- Individual performances during instructional engagement in PKC outpace maturational expectancies.
- Longer engagement in program = better outcomes
- Higher quality programs produce better outcomes than lower quality programs
- PKC achievement indices match or exceed national research indices
- Attainment of educationally important **“functional” benchmarks** of measurable progress (e.g., reductions special education placements; movement from delay to non-delay classifications; increases in social skills with reductions in challenging social behaviors; >80% attain PAELS; exceeding national normative and reference indicators)
- Mentoring improves program quality
- Innovative school-community “partnership elements” had differential outcomes.

## WHAT WE FOUND

### OUTCOME 1: High-Risk Preschool Children Beat the Odds and Succeeded in PKC by Gaining Critical Early Learning Competencies.

#### Did vulnerable 3-year old children benefit from PKC programs?

- Nearly 2000 3-year olds showed strong growth during their first year of PKC—a sensitive developmental period when they were most vulnerable for continuing developmental problems.
- At-risk or delayed 3-year olds at entry improved toward typical rates of development at exit
- All ethnic groups made gains, especially in spoken language, pre-reading, numbers, classroom behavior, and daily living skills.
- 3-year olds with the longest PKC participation—until transition to kindergarten—showed the strongest gains in early learning skills.

### How much did children who were at-risk or delayed in development benefit from PKC?

- Nearly **20% more children** are performing in the typical range of functioning after participating in PKC (Figures 2 & 3)
- Greater than 2 of every 3 children** with developmental delays attained a low average to average level of performance after participating in PKC.
- Children at-risk and with developmental delays and serious problems in social and self-control behaviors at entry showed significant gains in acquiring age-expected skills for kindergarten at exit.

### How well did all preschool children benefit from PKC?

- 10,000 high-risk and vulnerable preschool children showed significant gains in development and early learning skills in spoken language, reading, writing, math, classroom behavior, and daily living skills toward average (age-expected) and above average performance
- Actual developmental progress rates after participation in PKC exceeded childrens' expected maturational rates before participation in PKC.
- Developmental progress rates in some skill areas (spoken language, reading, and daily living skills) exceeded the statistical indices established in national early childhood intervention studies.
- Preschoolers with longest PKC participation--until transition to kindergarten—showed the strongest gains in early learning skills.

## OUTCOME 2: Improved Program Quality Promoted Children's Early School Success

### How much time engaged in a PKC program did it take for vulnerable children to show functional progress?

- Children participated in PKC for varying lengths of time (4-24 months).
- Initial functional progress was achieved only after the average child spent at least 6.4 months in PKC

### Did program quality nurture the success of PKC children?

- PKC programs made significant improvements in their classroom quality.
- Program quality was partly responsible for children's reading, writing, and math competencies at K-transition
- Children in high quality programs gained significantly more than children in low quality programs (Figure 4)

Figure 2: Risk Status at Entry to PKC

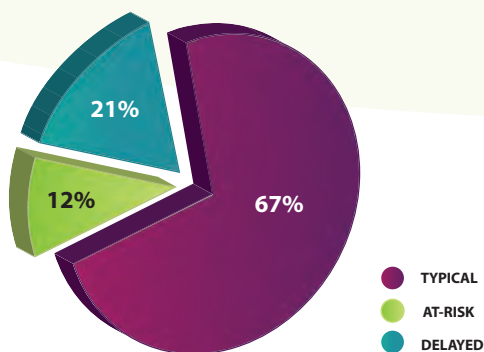


Figure 3: Risk Status at Exit (K-Transition) from PKC

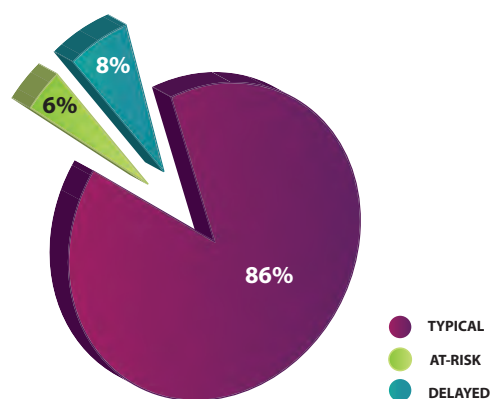
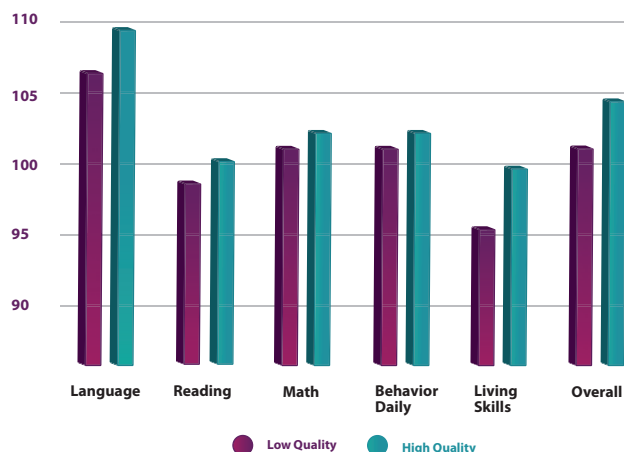
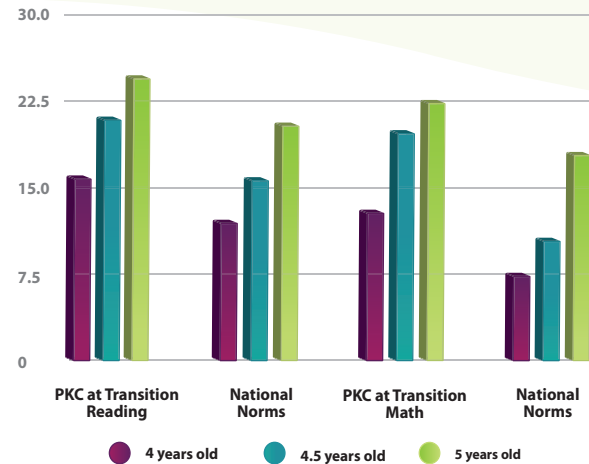


Figure 4: Comparative Child Outcomes for Low (1-2 Stars) vs High (3-4 Stars) Quality PKC Programs

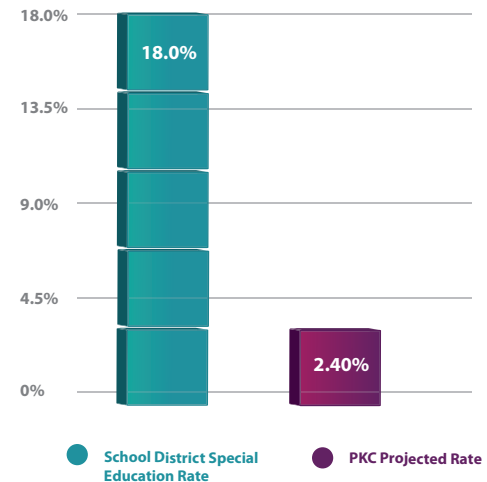




**Figure 5: PKC Child Reading and Math Competencies vs. National Norm Group at K-Transition Age**



**Figure 6: Historical School District Special Education Placement Rate vs. PKC Rate at K-Transition**



**OUTCOME 3: Ongoing Mentoring Improved Teaching and Program Quality**

- Variety of mentoring strategies used by coaches was partly responsible for improvements in teaching quality which improved children’s language and math competencies at K-transition

**OUTCOME 4: Children in PKC Programs Beat Local and National Norms to Achieve Success at Kindergarten Transition**

**Are PKC children “ready” for kindergarten?**

- Nearly 7000 high-risk PKC children exceeded expected competencies in spoken language, math, writing, and classroom behavior competency at transition and entry into kindergarten.
- Overall, 80% of PKC children met critical early school success competencies in the Pennsylvania Early Learning Standards (PAELS) at transition to kindergarten (**Table 1**).
- The gains of 5-year old PKC children exceeded the kindergarten transition skills of age peers on a nationally standardized measure of early learning in spoken language, reading, math, classroom behavior, and daily living skills (**Figures 5**).
- PKC children dramatically reduced the historical special education placement rates in their school districts (Figure 6).**

**Specific Competency**

**% Attained**

Demonstrate initiative and curiosity	85
Develop and expand listening and understanding skills	80
Communicate ideas, experiences and feeling for a variety of purposes	87
Comprehend information from written and oral stories and texts	78
Develop increasing understanding of letter knowledge	76
Learn about numbers, numerical representation, and simple numerical operations	73
Develop self-regulation	81



**Table 1: Critical PAELS Competencies Attained by PKC Children**



## WHAT IT MEANS

### OUTCOME 5: Innovative School-Community Partnership Models Nurtured Child and Program Success

- Specific partnership elements (e.g., focus on quality) supported PKC program's capacity to foster children's early school success.
- Direct Instruction (DI) add-on to a Developmentally-Appropriate (DAP) curriculum to reduce developmental delay and early school success in reading at 4KIDS in Braddock, Heritage Community Initiatives, Inc. affiliated with the Woodland Hills School District PKC. ([www.HeritageCommunityInitiatives.org](http://www.HeritageCommunityInitiatives.org))
- Innovative HealthyCHILD developmental healthcare supports in collaboration with University of Pittsburgh/ Children's Hospital to help teachers in Pittsburgh Public Schools PKC and Woodland Hills to build critical social and self – control skills for children through direct in-classroom mentoring.
- Child care provider training and credential at high school graduation for students in the Tussey Mountain PKC
- Tyrone School District PKC central "community campus" model for early care and education integrated in the setting with the primary grades
- Pittsburgh Public Schools fully inclusive and integrated ECE system with Pre-K, Head Start, and early intervention

### Overarching Conclusions Can Be Drawn from the Results of PKC

- Young high-risk children showed accelerated early learning progress.
- Young children with delays and challenging behaviors improved equally.
- Young children learned critical competencies for early school success and beat local historical and national norms.
- Vulnerable young children beat the odds and succeeded.
- Individualized programs helped children to succeed.
- Mentored programs improved quality and teaching which promoted child success.
- Standards for children and professional practices served to focus and guide teaching and expected outcomes for teachers.
- School-community collaborations and leadership were often innovative, effective, and value-added.

**Simply, Pre-K Counts in Pennsylvania works! Prevention works!**

## There Are “Lessons Learned” from PKC to Enhance Future Policies, Professional Practices, and Research in PA and the US.

- Ask “what about PKC works?” Stop asking “can PKC work?”
- Ensure funding for future independent research to analyze the sustained success of PKC children into the primary grades (K-5th).
- Improve and validate the Keystone Stars process by implementing a uniform, evidence-based mentoring model for coaches and teachers.
- Apply PKC research data to help prospective PKC programs make strategic decisions about their unique program designs
- Mandate that future PKC partnerships embrace all ECI community partner agencies in inclusive settings, particularly for children with challenging behaviors and delayed development.
- Maximize the participation of Early Head Start and Head Start as the foundation for PKC in the future
- Apply and research the federally mandated “response-to-intervention” (RTI) framework into Pre-K to ensure a graduated continuum of prevention-intervention supports which link regular and special education and other human services
- Connect PKC to new federal education mandates
- Re-evaluate to improve the Early Learning Network (ELN) measurement and database system and its measures of children and contexts
- Enhance the process, training, and reliability/validity of the Work Sampling System (WSS) for PKC purposes

## WHO PARTICIPATED

The SPECS team is privileged to work with remarkable people across Pennsylvania’s Pre-K Counts programs. The school-community partnerships showed creativity. Teachers, administrators, and parents inspired with their consent, devotion and willingness to participate in the program and the research. Children showed a joy and eagerness to learn. Business, corporate, foundation, and government leaders have our respect for their vision and their drive for high quality early care and education programs. Most of all, we are humbled to work, then and now, with individual school and community leaders in both urban and rural settings who have shown unwavering ingenuity, persistence, and commitment to their unique visions for PKC in their own communities. PKC and the quality of the SPECS research would have been impossible without the unique talents of these partners:

### **Bellefonte Area School District**

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### **Bethlehem Area School District**

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### **City of Erie School District**

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**Dr. Bagnato and his Early Childhood Partnerships team received the following distinguished research and service awards for the quality, impact, and value of their service and research work with community partners across Pennsylvania and the tri-state region since 1994; over 75 community partners provided the nomination for these awards :**

- **2001 University of Pittsburgh Chancellor's Distinguished Public Service Award**
- **2008 Penn State University Alumni Excellence in Education Award**
- **2009 Official Appointment to the Pennsylvania Early Learning Council by Governor Rendell**

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### **Early Childhood Partnerships**

**FORGING INNOVATIVE UNIVERSITY-COMMUNITY LINKAGES  
FOR CHILDREN & PROFESSIONALS IN AUTHENTIC SETTINGS**

Visit [www.earlychildhoodpartnerships.org](http://www.earlychildhoodpartnerships.org) to explore ECP core programs and to download the SPECS for PKC report and related research reports or contact Dr. Stephen J. Bagnato directly at [bagnatos@pitt.edu](mailto:bagnatos@pitt.edu)