



Colorado Preschool Program

2012 Legislative Report

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2012 Colorado Preschool Program Legislative Report

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Colorado Preschool Program Legislative Declaration:

The general assembly hereby finds, determines, and declares that there are substantial numbers of children in this state entering kindergarten and the primary grades who are not adequately prepared to learn. The general assembly further finds that early school failure may ultimately contribute to such children dropping out of school at an early age, failing to achieve their full potential, becoming dependent upon public assistance, or becoming involved in criminal activities. By enacting this article, the general assembly acknowledges the need to adequately prepare all children to learn through preschool programs. (22-28-102 (1) C.R.S.)

Robert K. Hammond, Commissioner of Education

Diana Sirko, Deputy Commissioner

Melissa Colzman, Executive Director, Teaching and Learning Unit

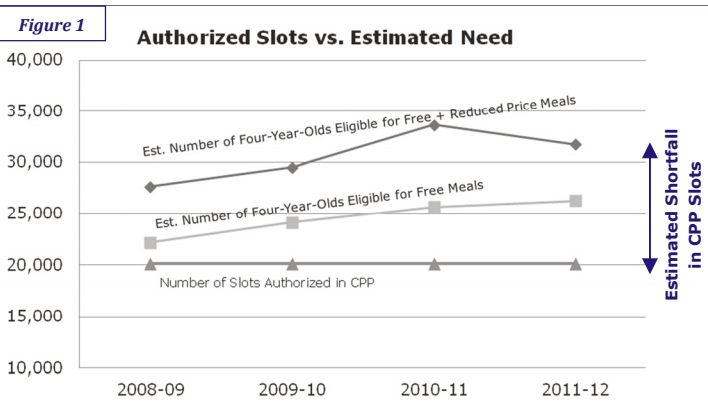
Sharon L. Triolo-Moloney, Director, Office of Early Childhood Initiatives

Introduction to the Colorado Preschool Program

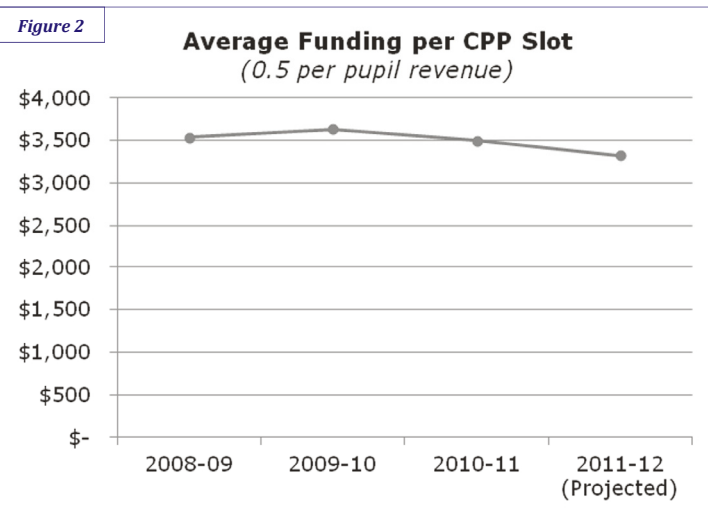
James Heckman, Nobel Memorial Prize winner in economics, writes in his article, *The Economics of Inequality: The Value of Early Childhood Education*:

The logic is quite clear from an economic standpoint. We can invest early to close disparities and prevent achievement gaps, or we can pay to remediate disparities when they are harder and more expensive to close. Either way we are going to pay. And, we'll have to do both for a while. But, there is an important difference between the two approaches. Investing early allows us to shape the future; investing later chains us to fixing the missed opportunities of the past. (p. 47).¹

The Colorado General Assembly established the Colorado Preschool Program (CPP) within the Colorado Department of Education (CDE) in 1988 to close achievement gaps and shape Colorado's future. By providing high quality early childhood education programs and family support services to 20,160 at-risk preschool-age children per year in Colorado, the Legislature has provided CDE with an important tool to assist districts in narrowing or preventing achievement gaps early. This report highlights the fact that CPP changes the developmental trajectory for children at risk, and improves school readiness. In addition, longitudinal data strongly suggest that CPP raises school achievement levels into middle school and reduces the need for children to repeat grades or play catch-up for missed opportunities. This early investment lifts some burden off of the K-12 educational system and helps children achieve their true potential.



Two important trends have been identified in CPP over the last four years. The first is an increasing unmet need for access to the opportunities provided by the Colorado Preschool Program. Using free and reduced cost meal eligibility as a proxy for the percentage of students eligible for CPP, Figure 1 illustrates the shortfall in authorized slots available in the program. The gap between the estimated number of children eligible and the resources available to serve these children has increased significantly since 2008. This type of estimate has its limitations, since it only focuses on the needs of four-year-olds and it does not take into consideration the children that may qualify under eligibility factors other than income. However, the shortfall in slots is also documented in the 2010-2011 CPP Reapplication and Annual Report, which is submitted to CDE. Through documentation of waiting lists and needs assessments, participating school districts identified an additional **7,879** children who were CPP-eligible but could not be served due to a lack of slots.



The second trend is that of steady declines in funding (see Figure 2). Just as funding has dropped in the K-12 system, average funding per CPP slot has declined overall by \$209 per child since 2008.

Did you know? In 2011 the Colorado Preschool Program provided a match that enabled Colorado to “draw down” an additional \$26.3 million in federal revenue. These additional federal funds supported Temporary Assistance to Needy Families (TANF). CPP funding has also been used to support additional funding for the Child Care Development Fund (CCDF).

Colorado Preschool Program At-a-Glance

How many children does CPP serve? CPP is authorized to serve up to 20,160 children per year. A limited number of slots (5 percent statewide) may be used to fund children to participate in a full-day program.

How many school districts participate in CPP? While school district participation in the program is voluntary, 170 out of 178 (95.5 percent) school districts and the Charter School Institute have CPP slot allocations.

Who are the children served in CPP? The Legislature targets the children most in need by setting certain eligibility factors for the program in statute. In the 2011-12 school year, school districts reported the following challenges facing the 20,160 children and their families supported by this program:

- 80.2 percent were eligible to receive free/reduced-cost lunch
- 43.1 percent were in need of language development including the ability to speak English
- 32.7 percent were identified as needing social skills
- 26.7 percent had a parent or guardian who had not successfully completed high school education or its equivalent
- 13.2 percent were receiving assistance as neglected or dependent children
- 12.7 percent were experiencing frequent relocation
- 9.4 percent had an unmarried teenage parent
- 8.8 percent of the families were homeless
- 6.5 percent had drug or alcohol abuse in their family
- 3.7 percent had an abusive adult residing in their home

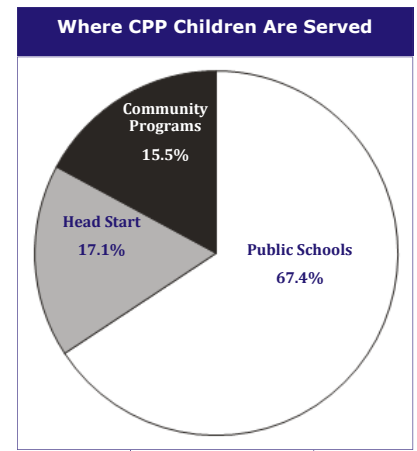


Figure 3

Where are children served? The CPP Act gives local communities the responsibility to decide which programs are best qualified to deliver CPP services. The intent of the law is to provide children and their families with the highest quality services available. As a result, Colorado Preschool Program children are served throughout the state in a variety of settings, including for-profit and non-profit community programs (see Figure 3).

The table below identifies how district advisory councils have chosen to deliver CPP services in their district. For the greatest number of districts, the public schools are the only preschool provider in the community.

CPP Council Choices in Serving Children	2010-2011	
	Number of Councils	Percentage
CPP councils with no other licensed preschools other than those located in a public school in the community	62	36.7%
CPP councils that contract out all allocated slots to community programs	40	23.7%
CPP councils that provide services in both community and public school settings	42	24.9%
CPP councils where other community providers exist but they do not contract with CPP	25	14.8%

Did you know? Sixty-seven percent of licensed part day programs and 19.6 percent of licensed full day programs in our state currently provide CPP services. This flexibility for providing services offers an increased array of choices for families. It also helps bolster quality in the early care and education system by creating opportunities for strong collaboration and shared resources.

Why Is Quality So Important?

Research shows that children benefit most from preschool when they are in a high quality preschool setting. For children at risk for school failure who must learn and develop at a faster rate than their peers in order to catch up, high quality programming is especially important.

In addition to important features like limiting class size to 16 and appropriate teacher-to-child ratios, the Legislature charged CDE with developing CPP program standards. Using nationally adopted standards as the foundation, a statewide group of early childhood educators worked with CDE and the Colorado Department of Human Services (CDHS) to develop the *Colorado Quality Standards for Early Childhood Care and Education*. These standards build upon CDHS child care licensing rules and regulations. The *Colorado Quality Standards for Early Care and Education* differ from academic content standards. The Quality Standards provide the “how” to teach young children as opposed to the “what” of academic standards. They address the following key components:

- Interactions Among Staff and Children
- Curriculum
- Family Staff Partnership
- Staff Development and Qualifications
- Staffing Patterns
- Role and Function of the Teaching Team
- Physical Environment
- Health and Safety
- Nutrition and Food Service
- Administration
- Evaluation



Local CPP district advisory councils are responsible for monitoring and helping to sustain the quality of the programs they oversee. Council members must make at least two on-site visits per year to programs serving CPP children. Programs serving CPP children are also encouraged to pursue accreditation. In 2011, 27.1 percent of programs serving CPP children were Qualistar-rated. Of those programs, **93 percent have earned a three- or four-star rating** (highest possible ratings).

Classroom Assessment Scoring System (CLASS): A Promising New Tool for Measuring Program Quality

When council members visit programs, they use tools that align with the Quality Standards. One such tool, which is being used in many programs statewide, is the CLASS. CLASS is a research-based observational tool that focuses on the classroom interactions that boost student learning. It focuses on effective teaching by helping teachers recognize and understand the power of their interactions with students. The CLASS aligns with professional development tools and works across age levels and subjects. Trained and certified CLASS observers visit classrooms or observe classroom video to make ratings on three broad domains of teacher-student interactions, which are divided into dimensions such as positive climate and concept development.

“Last year, we did a comparison of GOLD scores and CLASS scores and there were no surprises. Teachers who scored higher on the CLASS had children who scored at or above “Widely Held Expectations” for the GOLD [assessment]. We could clearly see the link between CLASS scores and outcomes for children. The CLASS gives us a tool that allows us to identify specific areas for improvement, and to offer concrete suggestions for improving scores using the CLASS Dimensions Guide. The CLASS also serves as a means to validate good practice and to recognize those teachers who perform in a stellar fashion. Having reliable raters ensures that the scores are accurate. As an agency we value the information from the CLASS, as it gives us an opportunity to see beyond the classroom environment to the interactions that are so critical for children’s success and positive outcomes.”

Linda Schlansker, Assistant Manager of Child Development, Community Partnership for Child Development

Why Use Results Matter to Measure Outcomes for Children?

Results Matter is Colorado's well-developed and highly-regarded early childhood assessment system. The rich evidence gleaned through this ongoing assessment system supports results-driven program and policy decisions, and provides the means to demonstrate the efficacy of early childhood services available to Colorado's children and families. Assessment opens exciting opportunities to communicate and use child outcomes data. However, care must be taken to ensure that assessments and the data they can generate are used appropriately and in keeping with educational best practices. Leading professional, organizational and appointed panels, like the National Education Goals Panel (NEGP), the National Association for the Education of Young Children (NAEYC) and the Division for Early Childhood (Council for Exceptional Children, DEC), have developed guidelines for the selection, use, and interpretation of early childhood assessments.² As noted in the table below, Results Matter's foundation supports the core beliefs outlined in national guidelines for early childhood assessment.

Assessments should benefit children and should be used to improve instruction and learning (NEGP, NAEYC, DEC):

The purpose of Results Matter is to promote positive outcomes for Colorado children and families by using ongoing child assessment, family outcome surveys and program quality data to inform early childhood practices and policy at all levels of the system. The assessment system identifies where more support, professional development and funding is needed and it leads to a deep understanding of each child so that instruction and support can be individualized to best meet their needs.

Assessments should assess developmentally/educationally significant content (NEGP, NAEYC, DEC):

Child success in school and beyond is highly influenced not only by achievement in academic domains, but by physical (including health) and social-emotional development, as well as effective approaches to developmental and educational activities. Results Matter assessments focus on developmental and academic domains that help educators form a complete picture in order to understand and support the whole child.

Assessment information should be gathered from familiar contexts (NEGP), realistic settings and situations (NAEYC) or be "authentic" (DEC):

Traditional point-in-time assessments offer only a snapshot of what a child can do on a given day and present a particular challenge for young children whose ability to show us what they know and are able to do is highly dependent on variables beyond their control. The Results Matter method for assessment involves observing children over a period of time and collecting a body of evidence that illustrates the best examples of the child's highest level of functioning.

Parents/families should be involved in assessment when possible (NEGP, NAEYC, DEC) and information should be gathered from multiple sources (NEGP, NAEYC, DEC):

Young children's learning and development occur in multiple environments with many different adults. Results Matter provides opportunities for family members and other caregivers to contribute observations, photographs and work samples to their child's growing portfolio and encourages teachers to consider evidence from multiple settings as they make assessment rating decisions.

Assessments should be age-appropriate, developmentally/individually appropriate and culturally and linguistically appropriate/responsive (NEGP, NAEYC, DEC):

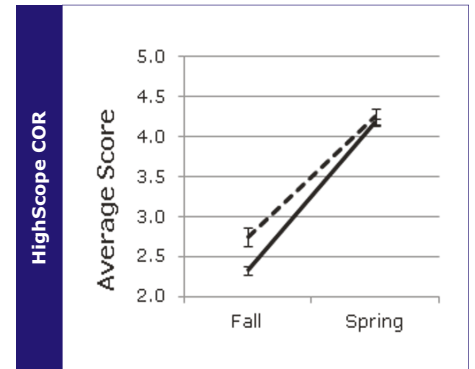
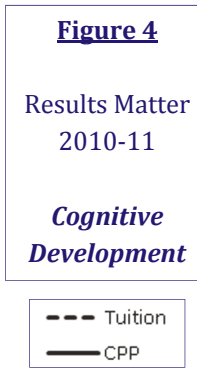
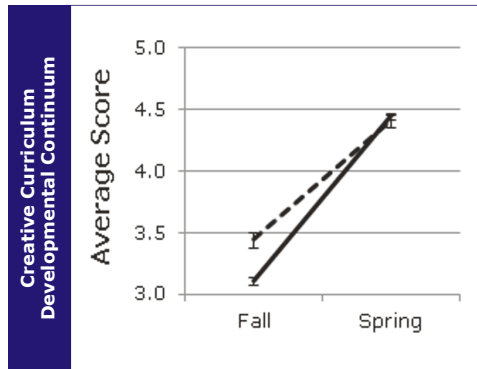
In order to accommodate children with disabilities and English language learners, Results Matter assessments allow for multiple means of representation, action and expression, and engagement, as recommended by the National Center on Universal Design for Learning. The assessments do not require significant modification for children with special needs but do allow for it when needed.

Assessments should be designed for a specific purpose and shown to be psychometrically sound for that purpose (NEGP, NAEYC, DEC). They should meet professional, legal, and ethical standards (NAEYC, DEC):

High-quality school readiness data are predictive of school success, show consistency across users, and measure appropriate knowledge and commonly valued skills. Results Matter assessment tools are backed by sound evidence which shows that they are highly reliable and valid.

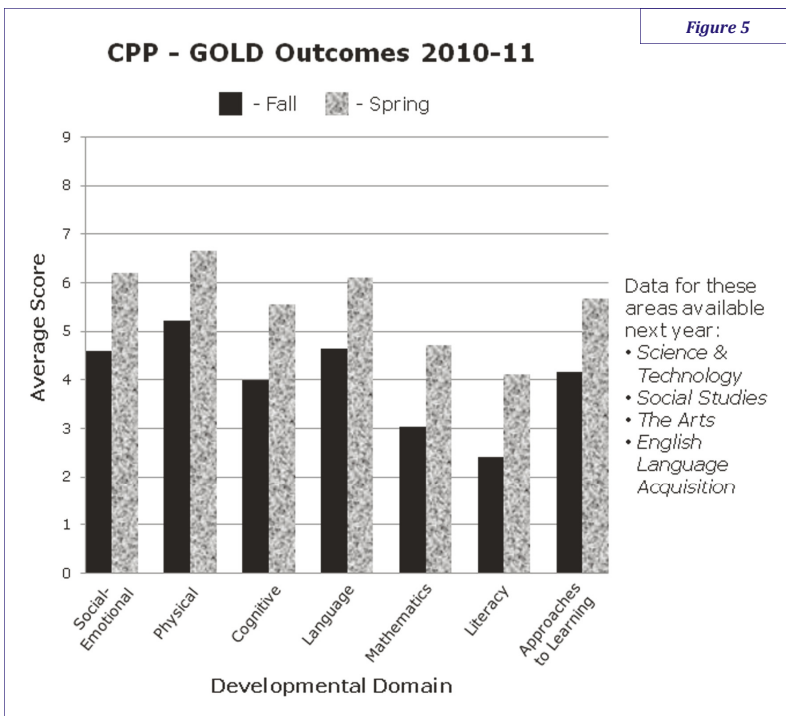
School Readiness: More Than Just Academics

Academic content like literacy and numeracy is most often associated with discussions about school readiness. However, a child's readiness for school is dependent upon more than just their cognitive abilities. In high-quality programs, teachers attend to other domains as well, such as social-emotional, language and literacy, approaches to learning, and physical development.³ The Results Matter assessment systems measure children's development in all of these domains. The graphs on the following pages (Figures 4-9) demonstrate developmental progress for CPP children using data from the three assessment systems of choice in 2010-11: The Creative Curriculum Developmental Continuum, Teaching Strategies GOLD®, and HighScope COR. Many of these charts show that, while a gap exists in the fall between CPP children and their peers whose families paid tuition, the gap narrows throughout the year, thus helping to make CPP children better prepared for kindergarten. Additional information is included in these pages explaining why all of these areas matter to a child's readiness for school.



"TS GOLD is the tool we have been needing to validate our teachers' thoughtful work with young children that is respectful of wherever the child begins. It is the instrument through which we can purposefully fill the gaps in children's learning based on valid, developmental data!"

Becky Feuerstein, ECE Director, Jefferson County Public Schools



The 2010-2011 school year was the first year for districts to implement the newest assessment in Results Matter: Teaching Strategies GOLD® (see outcomes in Figure 5). GOLD contains the following unique features:

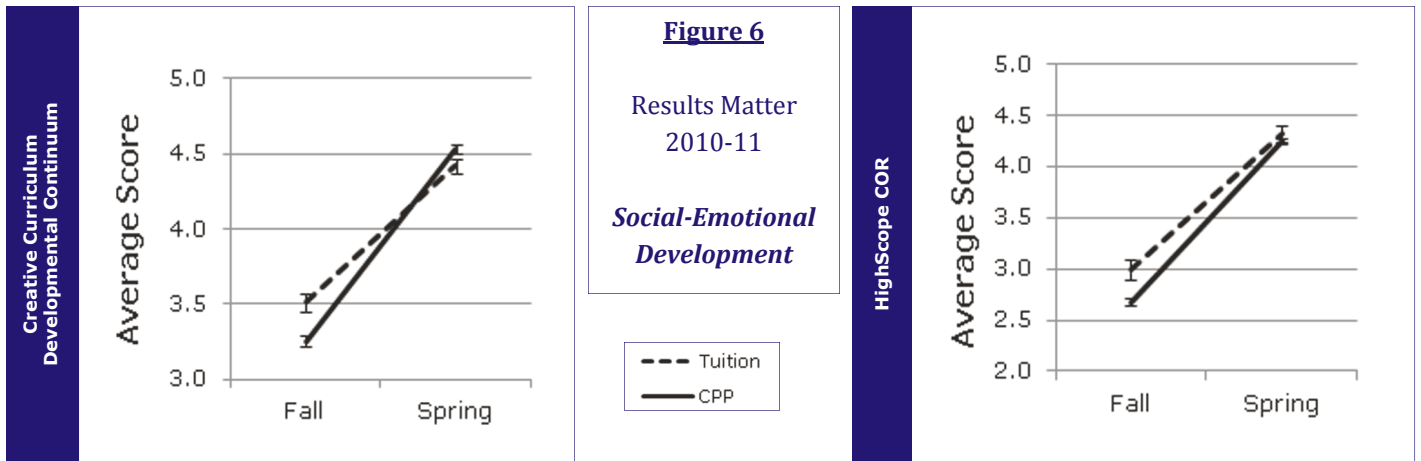
- Online inter-rater reliability certification process
- 38 objectives that are aligned with Colorado's preschool academic standards
- User-friendly tools and resources that enable teachers to link curriculum and assessment in a differentiated way
- Specific strategies and resources for teachers to support the needs of every type of learner
- Includes meaningful ways to involve families in the assessment process

Social-Emotional Development and School Readiness

What do we mean by “social-emotional development”? Social-emotional development includes both a child’s ability to establish and maintain positive relationships with others and a child’s ability to regulate feelings and behaviors. When assessing social development, early childhood educators observe how children relate to adults and other children, whether children can follow classroom routines and rules, and how children negotiate conflict. Emotional development involves children demonstrating appropriate trust in adults, recognizing their own feelings and managing them appropriately, recognizing the emotions of others and then developing empathy for others.

Why do these skills matter in school readiness? Children’s emotions and cognitive abilities work together. Without self-control, a child cannot take full advantage of learning opportunities. When a child has not developed trust, the ability to explore the learning environment with curiosity is difficult. In order to develop effective communication skills, a child must have an understanding of social cues and the ability to understand emotions of others. Confidence is necessary for social interactions to take place, and cooperation is at the heart of social-emotional intelligence. These elements are critical to a child’s school readiness as well as success later in life.

What does research tell us? When children have an opportunity to develop socially and emotionally, they are more likely to succeed in school. Children who do not conform to social and emotional expectations in school and who are disliked by teachers and peers, grow to like school less, feel less love for learning, and avoid school more often.⁴ If children have difficulty paying attention, following directions, getting along with others, and controlling negative emotions of anger and distress, they are not able to successfully navigate school.^{5,6} A child’s ability to regulate her own emotions and to form relationships between peers and teachers can significantly impact a child’s academic success.⁷



“I truly can’t even count the benefits. My child listens, follows directions better, and has had an opportunity to play with children outside of home. The things she has learned are countless.”

-Parent, Cotopaxi School District

“My child would not be prepared to handle school straight from home. CPP allows him to experience the school setting and learn to trust teachers.”

-Parent, Denver Public Schools



“My daughter began the program with severe separation anxiety and an aversion to change. While my husband was deployed, these issues were exacerbated to level that made me question my parenting skills, as well as my ability to cope with the extreme fear she exhibited when I had to be away from her. In her time with the preschool program, I have had the pleasure of witnessing a complete metamorphosis. I no longer worry about the tears and fears she previously exhibited. Currently my biggest concern is if she will bump into a friend while running to get in the classroom. As a mother, this peace of mind is priceless.”

- Parent, Fountain-Ft. Carson School District

Approaches to Learning and School Readiness

What do we mean by “approaches to learning”?

The ways in which children become engaged in social interactions and learning experiences is referred to as “approaches to learning.” According to The Head Start Child Development and Early Learning Framework, the following domain elements define approaches to learning: initiative and curiosity, persistence and attentiveness, and cooperation.



Why do these skills matter in school readiness?

The “approaches to learning” skill set contributes to children’s success in school and influences their development and learning in all areas. The National Education Goals Panel identifies approaches to learning as one of the key dimensions to school readiness.⁸

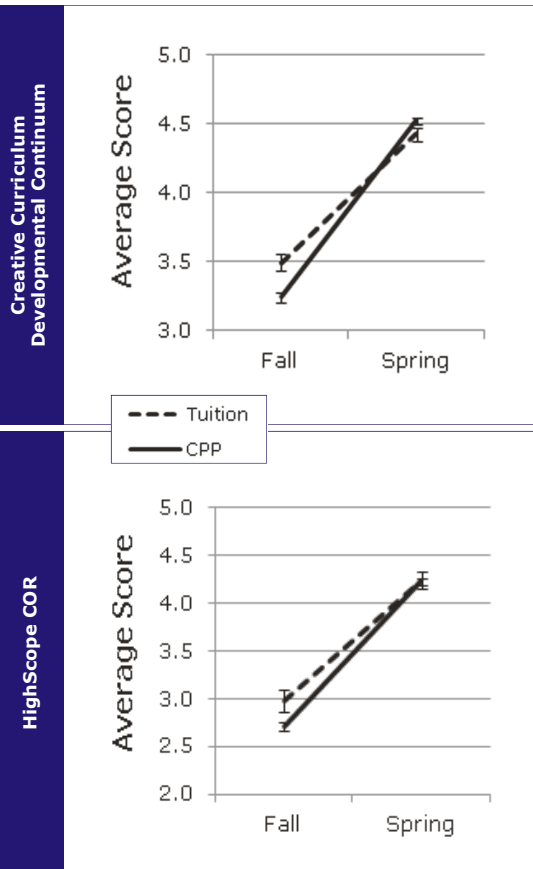
Children’s abilities to stay focused, interested, and engaged in activities support positive educational outcomes. Positive approaches to learning allow children to acquire new knowledge and skills, and helps them set and achieve goals. For example, curiosity supports exploratory activities such as scientific investigations, reasoning

and problem solving, all of which also support social relationships and mathematics. Success in school is not limited to knowing facts; children must be able to persist at challenging tasks, take risks and make mistakes, and work as part of the group in order to do well. Preschool teachers nurture positive approaches to learning through relationships, curriculum, teaching, assessment, and family communication.

What does research tell us? Children’s approaches to learning are powerful predictors of their later success in school. Many children, especially from low-income families, experience specific problems in focus, engagement, and transitions.⁹ To learn in a classroom setting, children need to be engaged in classroom activities. Some significant research findings in the study of children’s approaches to learning include:

- Children who solve problems in flexible ways show higher academic achievement in kindergarten and first grade.¹⁰
- Children participating in Head Start developed stronger vocabulary skills when they were also persistent and attentive in class.¹¹
- The ability to remember and follow instructions in order to complete tasks is associated with kindergarten children’s academic performance through second grade.¹²

Figure 7 - Results Matter 2010-11
Approaches to Learning



“My daughter has learned many new skills and applies them all the time! You have no idea how many circles and squares there are in this town. Or how many products have the recycle symbol on them.” -Parent, Durango School District

Physical Development, Health and School Readiness

What do we mean by “physical development and health”?

Physical development and health encompass issues of well-being, the sensory system, growth, fitness, and fine and gross motor development. Fine motor skills involve the use of the muscles in the fingers and hands. Gross motor skills utilize the large muscles in the arms and legs.

Why do these skills matter in school readiness? Early childhood is an important time for promoting the development of motor skills and physical activity. Preschool provides the opportunity to address the roots and earliest influences of healthy behaviors. High-quality programs can positively impact the health and development of young children through screenings, consultation, education, nutrition, and referral practices. With childhood obesity levels rising, it is even more critical to address this issue.

When children use scissors to create collages, draw pictures with crayons, and sculpt with play dough, they are developing fine motor skills that contribute to strengthening the muscles in their hands that are used as they learn to manipulate writing instruments such as pencils. Handwriting skills help children make connections between the written and spoken language. Children develop fine motor skills essential to life functioning such as buttoning, zipping, and tying their shoes when getting ready for outdoor experiences or engaging in the dramatic play area.

Gross motor development also impacts children’s learning in academic subject areas. Children learn cooperation, strategizing, and how to follow rules as they participate in activities such as soccer, tag, and obstacle courses. As children acquire physical skills, their self-confidence increases which supports their willingness to take risks in other subject areas such as reading and mathematics.

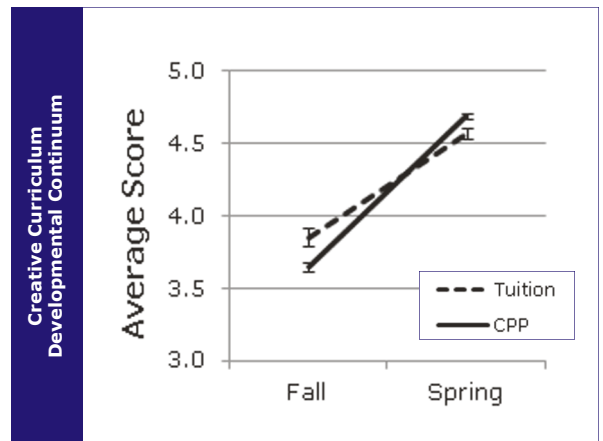
What does research tell us?

Health and school readiness are inseparable: good health leads to better learning. Children with poor health status may miss more days of school and often participate less when present. Children who are not given the chance to play in safe environments do not learn to use and coordinate their bodies as well, and may be at greater risk for obesity. Children who are not given the chance to use crayons, scissors, or play dough may find it more challenging to use a pen or pencil for later writing tasks. A survey of kindergarten teachers noted that good health was one of the factors perceived to be essential to school readiness.¹³ When children participate in regular physical activity, they not only build healthy bones and muscles and improve muscular strength and endurance, but they also reduce the risk for developing chronic diseases, improve self-esteem, and reduce stress and anxiety.¹⁴ Beyond these known health effects, physical activity also has beneficial influences on academic achievement, including grades and standardized test scores.¹⁵

“We appreciate this program in our home neighborhood. Our son has been greatly influenced in a positive way. The integration of safety, health, positive behavior and academics is essential to his growth.”

-Parent, Harrison 2 School District

Figure 8 - Results Matter 2010-11
Physical Development



Language & Literacy and School Readiness

What do we mean by “language and literacy”?

High-quality early childhood settings focus on language and literacy development throughout the day. Children are introduced to the five core components of reading—phonemic awareness, phonics and word recognition, fluency, vocabulary, and comprehension. Teachers also facilitate the development of children’s *expressive language* (communication of thoughts and feelings to another) and *receptive language* (listening to and comprehending communication from another). Both types of language are developed during play and other child-directed activities, and during teacher-directed learning.

The five core components of reading are addressed throughout the day in developmentally appropriate ways, meaning that expectations for typical three-year-olds are different from those of five-year-olds. Teachers and caregivers plan engaging activities to support language and literacy, taking into consideration each child’s abilities and cultural background.

Why do these skills matter in school readiness?

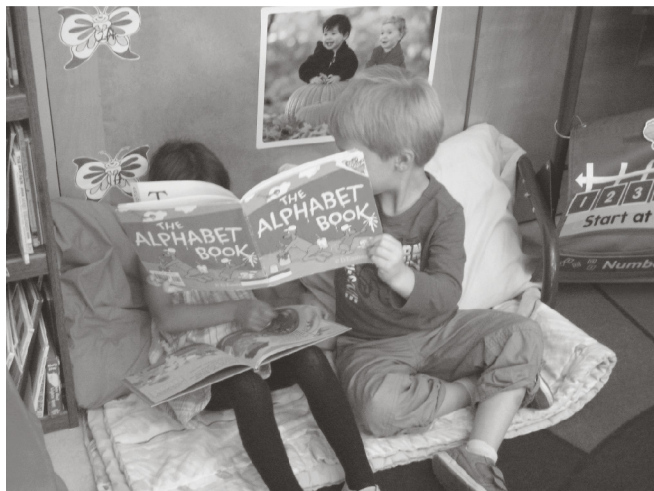
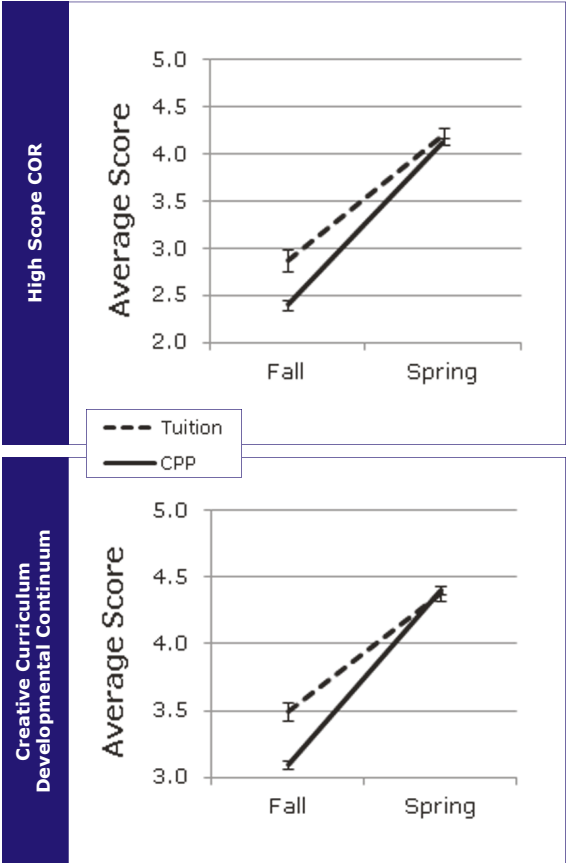
The importance of early language and learning experiences cannot be underestimated. Children from families whose parents work in low-wage jobs tend to begin their preschool years with a much smaller vocabulary than peers from more affluent families with parents who work in a professional capacity.¹⁶ Developing a larger vocabulary, learning how to use books, showing phonemic awareness, and building alphabet knowledge help to establish a foundation for later success. Proper communication means children

can express themselves, listen to others, and understand what’s being expressed to them. These abilities set the stage for problem-solving and collaboration, skills that can be utilized throughout their lives.

What does research tell us?

Early language and literacy skills are not stand-alone subjects to be taught during certain times of the day. Teachers’ use of sophisticated vocabulary and discussion of books in the classroom with preschool children who also receive literacy support at home can predict fourth-grade reading comprehension and word recognition scores.¹⁷ Moreover, high-quality instructional practices in the classroom (e.g., building a relationship with children, providing sufficient social-emotional support, demonstrating appropriate classroom management) improve language and literacy outcomes.¹⁸

**Figure 9 - Results Matter 2010-11
Language & Literacy Development**



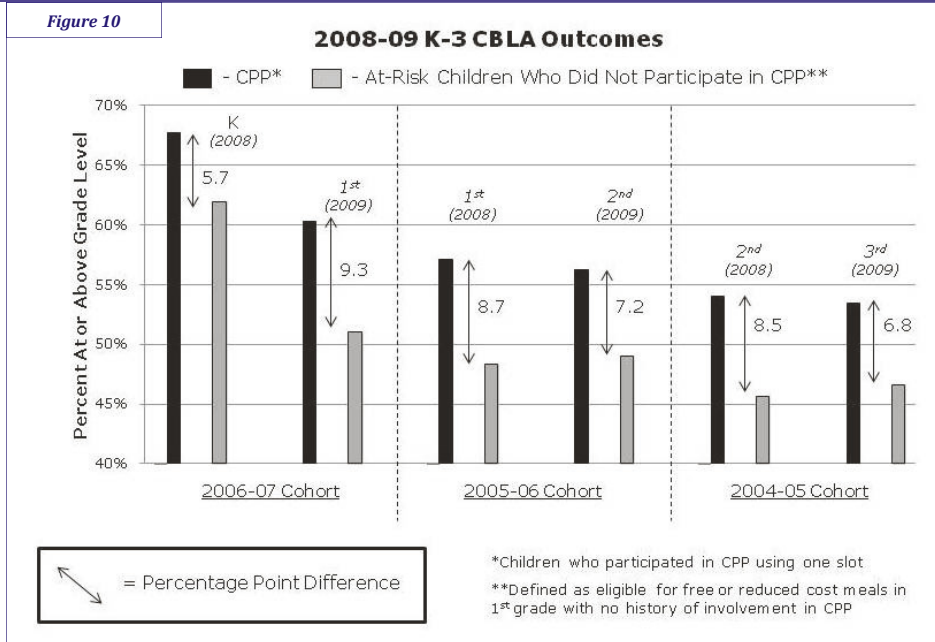
“Preschool has helped my daughter improve her vocabulary and listening skills along with many other life skills.”
-Parent, Moffat School District

“Not only have we seen our son leap forward in education and development, but the teachers have shown us how to continue the learning at home. “
-Parent, Douglas County School District

Ensuring School Readiness: Strong Evidence from CBLA Assessments

Outcomes from the Colorado Basic Literacy Assessment (CBLA) are useful for studying the effectiveness of CPP in preparing children for school. In kindergarten through third grade, teachers are asked to identify whether children are at grade level, below grade level or above grade level in literacy skills. The difference in achievement between CPP graduates and children who were at-risk but did not benefit from CPP verify the clear advantages of investing in CPP (see Figure 10).

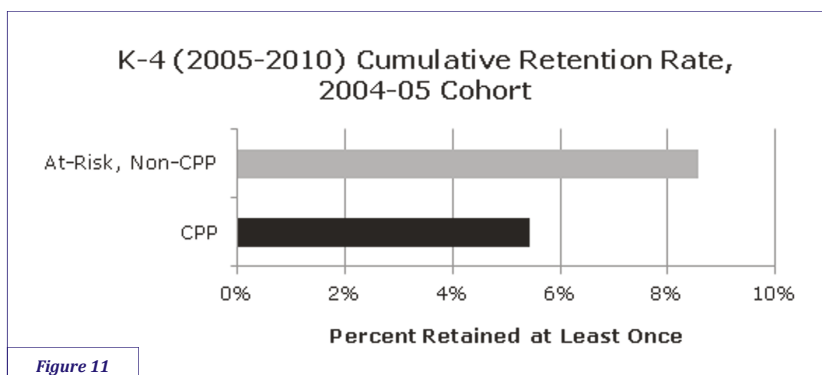
Note: As illustrated to the right, there is an overall drop in ratings between kindergarten and first grade for both former CPP students as well as their at-risk peers. There are similar trends in statewide CBLA and statewide and national Reading First data that illustrate dips in scores from kindergarten to first grade and then on to second and third grades. One reason for this may be that in kindergarten, the assessments in place for CBLA focus on letter naming and phonemic segmentation tasks or using picture clues to read predictable text. By first grade, the assessments focus more on reading and comprehending actual text. Therefore, at-risk children may do very well in kindergarten with letter naming and phonemic segmentation tasks, which rely on memorization skills. As children progress through elementary grades and text comprehension becomes more challenging and important, language skills contribute vitally and directly to reading success.¹⁹ If gains in language and vocabulary development in preschool are not maintained, reading comprehension will become more difficult.



Preschool Opportunities Can Reduce Future Costs

With constrained budgets, it is important that publicly funded programs maximize the returns on taxpayer dollars. This report highlights how the Colorado Preschool Program is an efficient and effective investment. Figure 11 shows that CPP is associated with a reduced rate of *cumulative retention*, i.e., whether children were held back at any point in early grade school. Moreover, CDE has found that attendance in CPP is associated with a reduced need for retention by as much as one-half (in this case, during kindergarten).

Retention is an expensive intervention strategy for schools, districts, and taxpayers. Supporting children who have fallen behind requires additional expenditures, thus putting pressure on limited school resources. Retention effectively costs Colorado taxpayers an extra year's worth of education funding. In addition to the burden on the education system, these children can also be stigmatized by the loss of opportunities and self-confidence.



A Closer Look at the Longitudinal Data

Colorado Student Assessment Program (CSAP) Multiple Regression Analysis

CDE can report longitudinal CSAP outcomes through middle school on children funded by CPP versus other at-risk children who were not in CPP (see Figure 12). While this is a good starting point, the comparison warrants deeper exploration of other possible confounding factors.

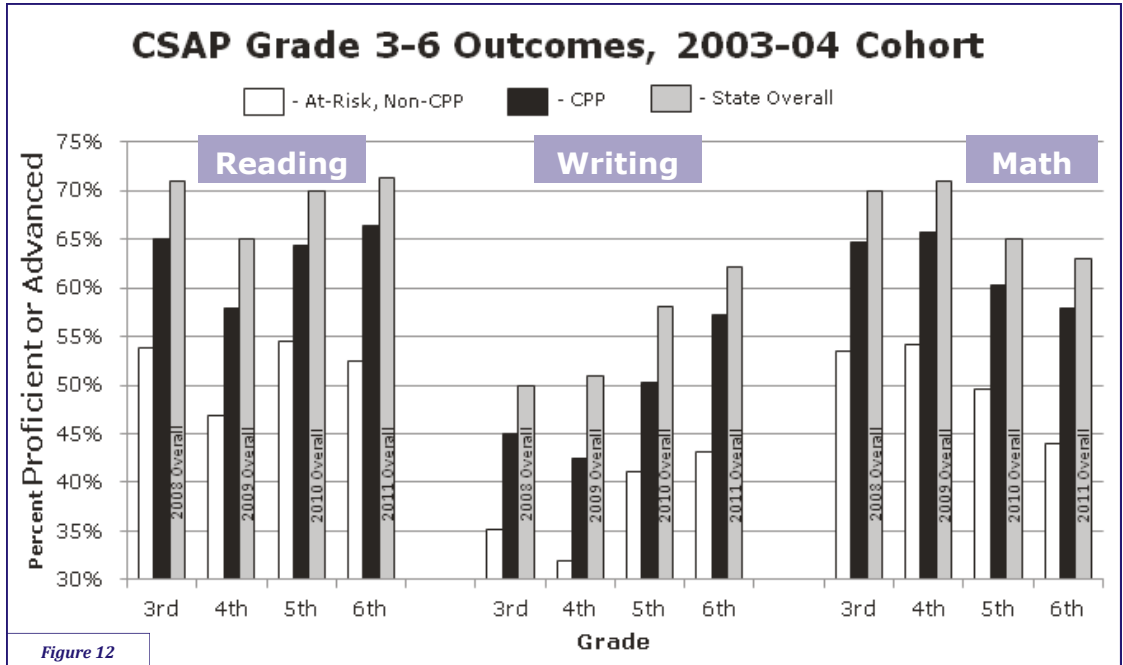


Figure 12

As such, CDE analyzed

records from the same two groups as in previous years (CPP vs. at-risk, non-CPP), using the cohort from the 2003-04 school year. We looked at third grade results from all three CSAP subject areas (reading, writing, and math). Using multiple regression—a method for exploring the influence of multiple independent variables on the dependent variable—we explored the relative influence of past CPP participation on CSAP scale scores while controlling for four other covariates (i.e., factors)*:

- English Language Learner Status (Y/N)
- Minority Status (whether a child's race was white or not)
- Gender (M/F)
- Free or Reduced Cost Meal Eligibility (Y/N)

*Difference in Third Grade CSAP Scale Scores between CPP and Non-CPP Cohorts When Controlling for Other Major Factors**:*

Math – 12.2 point difference

Reading – 11.0 point difference

Writing – 7.6 point difference



The results point to the wisdom of investing in the Colorado Preschool Program. Even while controlling for these other major variables, past participation in CPP still accounted for a statistically significant difference in all three subject areas. In other words, CSAP scores for children who participated in CPP were significantly higher than children who did not participate in the program, even when accounting for the influence of other major factors.

Readers should note that most of the other covariates had a larger influence on the difference in scores, especially ELL and minority status. This confirms the wide body of research on the disadvantages for at-risk children. But even despite these differences, CPP still made a difference in outcomes and helped these children achieve their true potential.

**Because each covariate had a binary, nominal level of measurement, each was dummy coded to a negative or positive numerical value for the purpose of the multiple regression analysis. All these variables were based on status in third grade.*

***p<.001*

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