

## Why Is Preschool Essential in Closing the Achievement Gap?

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*Abstract: Studies suggest that three and four-year old children who are exposed to preschool have a greater chance of academic success throughout their schooling. This article highlights a five-year case study of children of poverty who attended a structured preschool in Salinas, California. The longitudinal study exposed various components of a successful preschool program. The study results indicate that children of poverty who attended preschool out performed in second and third grade a similar population of poverty students who did not attend preschool.*

Three and four-year-olds who attend preschool are more likely to do well academically and socially throughout the rest of their schooling and later as adults in both their personal and their professional lives, less likely to be placed in special education classes, drop out of school, or have problems with law enforcement; they are more likely to attend college and to avoid long periods of unemployment or welfare. (California Department of Education, 2003)

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Children have the greatest chance of succeeding in school if they regularly attend a high quality preschool program. In 2000 the National Assessment of Educational Progress (NAEP) test results, showed that 68% of low-income 4th grade students could not read at the proficiency level (National Center for Education Statistics, 2000). Further the report noted that there is a 90% chance that a poor reader at the end of 1st grade would be a poor reader at the end of 4<sup>th</sup> grade. The majority of practitioners concluded that most reading problems are preventable in preschool and the early grades.

According to Starkey, Klein, and Wakeley (2004) the performance gap in mathematics for economically disadvantaged students begins in early childhood. Students with fewer resources at home begin school with significantly less mathematical knowledge. This would suggest that the preschool experience is a mechanism to level the playing field and fully prepare students to succeed in kindergarten.

Burgess (2002) emphasizes the importance of preschool experiences within her article on shared reading and early reading skills. The value of early intervention programs such as preschool focused on shared reading and the development of phonological sensitivity and oral language development. Further the author recognized that learning to read started before kindergarten for many children. The relationship between shared reading and oral language development was studied by Senechal, LeFevre, Thomas, and Daley (1998). They concluded that preschool children who listened to storybook lessons developed oral language skills and were more successful than a control group in kindergarten and first grade.

According to the California Department of Education (2005) there is increasing evidence that young children are very capable learners and that preschool can contribute to student success. Conclusions from brain research indicate that young children's learning experiences have a profound effect on cognitive development. Likewise, the California Department of Education concluded that early childhood instruction improves their development.

The RAND Corporation conducted a comprehensive study of the effects of preschool programs in California. The study found that well-designed preschool programs which worked with disadvantaged children created benefits to government and society that far exceeded the financial investment. In dollars and cents, every dollar spent results in a return of \$2.62 in an added labor force and economy and reduced education and penal expenses (Karoly & Bigelow, 2005).

When the Santa Clara County Office of Education in San Jose, California reviewed their preschool program they found that 75% of the preschool students met kindergarten teachers' expectations. At the same

time only 10% of the promoted preschool students were considered far below expectations and 41% were considered proficient in language arts.

The goal of preschool is to offer a rich, warm and academic environment that will foster student learning. Data analyzed by Reid Lyon from the National Institute of Child Health and Human Development illustrates that 37% of students perform below basic levels (Lyon, 1998). Of these students 60% come from families of poverty. Hart and Risley (1995), in *Meaningful Differences in the Everyday Experiences of Young American Children*, investigated qualities of language of children and families of three groups. These groups were professional families, working-class families, and families on welfare. Their study showed marked differences in the minutes of interaction between parents and children, exposure to words during a period of one year, and words spoken to the child. While the number of interactions between professional parents and their children, working-class parents and their children, and families on welfare and their children were very similar, it was the time spent on each interaction that was significantly different. Professional parents spent nearly twice as long talking to their children as parents who live in poverty.

The exposure to words over one year also varied greatly according to Hart and Risley (1995). Children in professional families heard nearly eleven million words, children in working-class families heard six million words, and children in welfare families heard three million words. In four years that means children with professional parents heard almost five times as many words (50 million) compared to a child in poverty (10 million). Thus, the academically rich environment established by preschool is designed to close this disparity, which leads to closing the achievement gap.

A recent survey of 2,314 California children by Bridges, Fuller and Rumberger (2005) of the Minority Search Institute, identified a significant gap in kindergarten readiness between affluent and middle-class children. Latino kindergarten students scored 17 points below Whites on early language and pre-literacy assessments. When the very poorest children were compared to the richest students, the gap was even larger. The poorest children began kindergarten a full six months behind in pre-reading skills. The report concluded that the performance gap for minority students could be lessened with regular attendance in a preschool program.

For children to be proficient in reading and math by 2014 as required by No Child Left Behind, all children need to enter kindergarten ready to learn. High-quality kindergarten has been documented to be the best investment for improving achievement. High quality programs include sufficient time, precise targeting, thoughtful focus, and accountability for

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results. Sufficient time means expanding the typical 3-hour program for 36 weeks a year to longer hours and additional days. Even though all children should have access to high-quality preschool, targeting the children most at risk should be the highest priority. Several factors should be considered: mother's educational level and English language proficiency, as well as family income level.

During preschool time, children need to focus on activities known to be highly predictive of later school success. Measures of the students' progress must include knowledge, skills, and self-regulatory skills (Fuller & Shih-Chen Huang, 2003). Research has established that preschool education can produce substantial gains in children's learning and development (Barnett, 1995). Children who experience a smooth transition and positive experience early in school tend to maintain higher academic achievement.

#### How One School District Took This First Step: A Case Study

In 1999, Superintendent Robert Slaby asked teachers of primary grade students in the Salinas City School District what he could do to help them improve student performance. In response to their recommendation to "...add a preschool program at our site" the district initiated a universal preschool program. The mission: to prepare 4-year olds for kindergarten by having them know school routines, letter names, their name, numbers, colors, and how to play with others.

Within five years, eight elementary schools added preschool programs and the results have shown increased attendance, parental involvement, and student academic performance. With the belief that a preschool program provides a safe and nurturing environment while offering a developmentally appropriate program designed for each child's optimal development, self-esteem, sense of competence, and positive feeling toward learning, the program operates 180 days a year with a morning and an afternoon session.

#### Curriculum

The human brain forms itself based on the child's experiences (Wolfe & Nevills, 2004). The preschool child's experiences guide this extraordinary brain development. Synapses are forming new connections by the millions every day. The activity learning in preschool encourages brain growth at this critical age.

One goal of the Salinas City School District preschool was to know each child. By knowing each child, the staff felt preschool experiences

were maximized. Teachers worked to understand and know each child's skills and abilities in oral language, academics, and motor-skill development, social and emotional development. At the beginning of the school year, teachers observed and recorded children's behaviors as they responded to explicit tasks. The first task measured a child's knowledge of gender. Teachers often asked the class to line-up, "Girls here and boys there." Other skills and abilities were measured by observing students in individual tasks. As recommended (Venn & Jahn, 2004), each student sat with the teacher and was asked to write the first letter of his or her name.

A record of children's progress was kept in a portfolio which documented students' progress in their physical, cognitive, social, and emotional development three times a year. The contents of the portfolio were based on recommendations from the Desired Results Developmental Portfolio (California Department of Education, 2003) that measures:

- Children are personally and socially competent,
- Children are effective learners,
- Children show physical and motor competence,
- Children are safe and healthy.
- Families support their child's learning and development, and
- Families achieve their educational goals.

Children grow and are nurtured within the context of their family. Home environments are the context for what a child believes about themselves and the world. Successful preschool programs are a good fit with family life. Preschool staff members incorporate learning experiences from the child's home into the classroom in a variety of ways. One favorite of the preschool staff for language development was to sing along with Latin American Lullabies.

Teachers also extended classroom experience to the home. Some teachers assigned homework. Parents, grandparents, and guardians were asked to find four red things at home, or read a story about fish in preparation for a visit to the Monterey Bay Aquarium. Preschool teachers often checked out the Boomerang Kit (Flying Rhinoceros Educational Enterprises, 1998) which included animated stories on videotape, books, and an activity book in English and Spanish. Many families appreciated having books in their primary language to read to their children. The Boomerang Kit went home and it came back to school.

A typical preschool day began with circle time. The teacher and instructional aide greeted students and parents. One or more parent volunteered each day. Children sat on patterned rugs (e.g., José on a red square, Lydia on a green circle). Everything was a learning experience. When children were unsure, the teacher gently encouraged them, by saying, "Muy buen, sientese aqui" (Very good, sit here).

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Preschool lasted either three hours or six hours depending on the program. During the program, children learned in activity centers, by direct instruction and play time. Each of these curriculum components contained elements of structured and less structured activities to maximize learning. Print awareness, alphabet and letter naming, word and syllable counting, phonemic awareness, and rhyming were all part of the preschool day. Playtime often started with stretching, "Reach for the sky, touch your toes, turn to your neighbor, and pat your hands." Then children choose to ride bikes, slide on the play structure, or build a sand castle. These activities were designed to further physical, social, emotional, and academic abilities.

Consistent with Brooks' (2002) research, teachers sought to value students' point of view by adapting curriculum to students' cultures, posing problems of emerging relevance, structuring lessons around primary concepts and assessing learning within the context of teaching. Careful planning in collegial groups lead teachers to the deep understandings needed for this work.

#### Parent Involvement

The staff felt parent involvement and participation was fundamental to success. Parents, guardians, and extended family members were an essential component of preschool. Each day parents were part of preschool. First parents registered their child for the day. Parents often brought homemade snacks, managed fund-raising projects, or donated supplies to the class. At least one parent stayed to make instructional materials or guild center activities. The parents' presence demonstrated their commitment to their children.

The Parent Advisory Committee (PAC) helped to assure program quality. The entire committee was composed of parents. Two parents represented each class. A president, vice president, and recorder were nominated to govern the group. Each meeting was held at a different school site. Before the meeting, a sub-committee of the PAC inspected the classroom(s) using the Desired Results rubric. They made commendations and recommendations for organization, the availability of books, the engagement of the centers, etc. During the meeting the PAC made recommendations to the administration regarding the classroom. This process assured a high quality educational setting in each room. The remainder of the meeting agenda included program information, budget updates, and personnel changes, if any. School reports provided information on special activities or concerns.

Each month all parents attended a parent training session. It was

offered twice: once in English and once in Spanish. Ten topics were addressed including nutrition, discipline, home literacy projects, and motor development. Parent coordinators referred families to community services as needed. Parents were also encouraged to attend special community events or to voice concerns.

#### Financial Resources

The preschool program had three funding sources. State Preschool allocated funds for low-income students to attend. The program had rigid requirements that parents must fulfill including verification of income from pay stubs and/or income tax returns, evidence of a negative tuberculosis test, evidence of residency, and the child's birth certificate, and any custody documents. Title 1 Part A provided a second income source. The Title 1 funds allowed students to participate who did not meet the low-income standard. As a result the preschool composition closely resembled the kindergarten class. A third funding source was Migrant Education. One Migrant Preschool class operated ten hours a day. The Monterey County Office of Education allocated approximately \$80,000 for this program that served 22 students. The \$1.66 million budget for the 2003-2004 included \$1,307,000.00 from state preschool funds, and approximately \$357,000.00 from Title I allocations. An annual cost was estimated at \$3,000.00 per student.

#### Preschool Makes a Difference

Practitioners and researchers alike contend that the enrichment of preschool makes a difference especially for children living in poverty. The findings of the case study found this to be certainly true. Students were followed for five years, from preschool to third grade. Children were divided into three groups. The first groups were students who lived in poverty and attended preschool (note: almost all students who attended preschool were living in poverty). The second group was poverty-level students who did not attend preschool. The third group contained all students who did not attend preschool. Poverty was defined as children enrolled in the National School Lunch Program (NSLP). For Salinas this represented 75% of the students.

Despite their poverty-level, preschoolers exceeded the No Child Left Behind (2001) benchmarks for those years. All second and third graders were tested on California State Standards Test. Twenty-four percent (24%) of the students who attended preschool scored proficient and above in English/Language Arts compared to 10% of the students who had not

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attended preschool. The same was true for mathematics. Fifty percent (50%) of the students who had been preschoolers scored proficient and above compared to 34% for the non-preschoolers. The results in second grade were even more dramatic for poverty-level students who attended preschool were compared to poverty-level students who did not attend preschool. Only 9% of the poverty-level students who did not attend preschool scored proficient or above in English/Language Arts compared to 24% of the preschoolers who were at poverty-level. The results were similar in mathematics. Fifty percent (50%) of poverty-level students who attended preschool scored proficient or above compared to 31% of poverty-level students who did not attend preschool.

The effects of preschool carried over to third grade. The poverty-level students who attended preschool scored proficient or above at a rate nearly double those of poverty-level students who did not attend preschool. Eighteen percent (18%) of the poverty-level third graders who attended preschool scored proficient or above compared to 10% of the poverty-level students who did not. In mathematics, 41% of the third graders who attended preschool scored proficient or above compared to 28% of the poverty level students who did not attend preschool.

The students who attended preschool and who lived in poverty and

**Table 1**  
*Preschool Experience and Academic Performance*  
*on the California Standards Test*  
*of English/Language Arts and Mathematics*

	Number of Students		English/ Language Arts— Proficient & Above		Mathematics— Proficient & Above	
	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade	2 <sup>nd</sup> Grade	3 <sup>rd</sup> Grade
<b>With Preschool (All NSLP)</b>	182	144	24%	18%	50%	41%
<b>No Preschool (All Children)</b>	726	1099	10%	14%	34%	35%
<b>No Preschool (All NSLP)</b>	326	739	9%	10%	31%	28%

Note: National School Lunch Program (NSLP) provides students with free or reduced cost lunches.

went to preschool continued to score better than all the students of the district who did not attend preschool. Forty-one percent (41%) of preschoolers scored at the proficient level or above in mathematics compared to 35% of the non-preschoolers while 18% of the poverty level preschoolers scored proficient or above in English/Language Arts compared to 14% of the non-preschoolers.

### Expanding Preschool

As a district considers establishing or expanding preschool opportunities, there are several factors that need to be openly discussed and certain procedural steps to be taken. Every program, no matter how successful, will be scrutinized in this era of tight finances. To increase funding and expand preschool means that these funds will not be spent elsewhere. This could mean jobs, the containment or elimination of another program, and increased student enrollment at schools. All of these issues have constituencies and their concerns will need to be addressed. A need for preschool must be made apparent and agreed upon. Without this need, the change will be difficult. Hopefully, the added value of a successful preschool will persuade the challengers. In any case, the district through its governance team needs to make a public and financial commitment to the program.

Once a commitment is made for preschool, permanent funding sources need to be established. As mentioned earlier, funding in Salinas City School District comes from State Preschool Funds, Title I, and Migrant Education. The expenditures of these funds may need to be approved by school site and district councils and need to be part of the school plan. A long-term commitment to funding needs to be approved and supported. One consideration may be to use new or increased funding in the above-mentioned areas. These funds have not been previously utilized or committed which may ease concerns.

Staffing, as in most programs, is the key. Credential requirements for staff must be implemented as well as the new requirements for teaching assistants as delineated in the federal No Child Left Behind law.

One of the most perplexing areas is expanding preschool facilities. A district cannot simply take a vacant classroom and designate it as a preschool classroom. There are state guidelines that range from size of facility, numbers of bathrooms in the classroom, and the size of the playground. Providing facilities consumes significant amounts of funds and time, is ongoing, and involves interaction with state agencies.

The operation and expansion of a preschool program bring financial, facility, and supervision challenges. There are constant reports and

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inquires from state agencies, site challenges regarding expenditure of categorical funds, and ever changing staffing needs. However, if the cycle of poverty and its effects on our youth is to ever to be broken, it needs to start with a child's formative years. To bring academic equity to children at the beginning of their schooling is the first step in closing the achievement gap. These children will be able to take advantage of a school's wonderful staff and academic programs and perform on a more equitable academic playing field.

#### Summary

The achievement gap is difficult to close. There are many external as well as internal factors that affect the achievement gap. Schools, in California, have reduced class size in kindergarten through third grade, intervention programs abound, and instructional strategies have improved. A structured preschool was started with a belief that such a program while providing a safe and nurturing environment, and offering a developmentally appropriate curriculum, the achievement gap among poverty children would be closed. Small gains have been made, and have been sustained. Some of the affects have been reduced. The achievement gap can be closed for children of poverty and preschool offers one of the best methods to achieving that goal.

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