Preschool and Beyond Study

YEAR TWO REPORT TO PARENTS

by Carrie Shoda-Sutherland

PASE *Policy Analysis & System Evaluation*

KAMEHAMEHA SCHOOLS

About the Study

WHAT IS THE PRESCHOOL AND BEYOND STUDY?

The Preschool and Beyond Study is a research project Kamehameha Schools started in 2000. The purpose of the study is to understand what makes children—especially Native Hawaiians—succeed in school.

WHY DOES KAMEHAMEHA SCHOOLS DO RESEARCH?

Research is about action. Research helps us find better ways to educate children. Research also guides decision making about educational programs and curriculum. Studies that track students over time—such as the Preschool and Beyond Study—show how family, teachers, and schools influence children as they progress from grade to grade. Information about this learning process is vital as Kamehameha Schools reaches beyond its campuses to serve more keiki.

WHAT BENEFITS DO YOU RECEIVE FROM THE STUDY?

The Preschool and Beyond Study gives clues about how to enhance your child's success in school. Our findings show, for example, that household routines—such as a regular bedtime and adequate sleep—affect your child's performance at school. The study also suggests ways of learning that may be unique to Native Hawaiians. As a reminder, participation in the study is voluntary and does not affect a student's application for Kamehameha Schools' campuses or programs.

WHO IS INVOLVED?

In school year 2002–03 (the second year of the study), 607 students participated in the study. The students were preschoolers and kindergartners from 102 schools (public, private, charter, and Hawaiian immersion) on O'ahu, Maui, and Hawai'i Island. Data were gathered by SMS Research via student tests, parent interviews, teacher and administrator questionnaires, classroom observations, site-visits, and open-ended discussions with parents and teachers.

- **Students** were tested at the beginning and end of the school year. This report focuses results of the vocabulary test.
- **Parents** shared information about family routines at home. They also shared their views about education.
- **Teachers** filled out questionnaires and discussed classroom resources, activities, and teaching approaches. Teachers also completed student assessments at the end of the year.

WHAT IS THE SCOPE OF THIS REPORT?

This report highlights research findings in four key areas:

- Student performance and related factors
- Home environment
- Primary caregivers
- Classrooms and schools

Student Performance

ASSESSMENT TESTS: OVERALL RESULTS

Students took several tests at the beginning and end of the school year. This section highlights results of the Peabody Picture Vocabulary Test (PPVT-III). We chose PPVT-III scores because a child's vocabulary is linked to academic achievement and future school success. Table 1 shows the progress kindergartners made over the course of one school year.[1]

Table 1. Kindergarten test results: Receptive vocabulary skills on the PPVT-III

	Fall 2002	Spring 2003	Change
Average standard score	97 points	100 points	+ 3
Average percentile rank	44%	51%	+ 7%

By year's end, standard scores had increased by 3 points, upping the percentile rank by 7 percent.[2] This means that by the end of the school year, average scores of kindergartners in the study were higher than those of 51 percent of same-age children nationwide.

WHAT HELPS CHILDREN GET HIGHER SCORES?

Data collected from teachers suggest several important findings:

- **Positive attitude.** Students with a positive attitude toward learning had significantly higher test scores compared with other students. Positive attitude was measured by the student's satisfaction in accomplishments, eagerness to learn, working to the best of his or her ability, and getting along with others.
- **Picture books.** Children who looked at picture books daily had significantly higher test scores than did children who looked at picture books less frequently.
- **Good health.** Children with health challenges (e.g., hearing deficits or specific needs/therapy program) had significantly lower test scores than did children without health challenges.
- **Breastfeeding.** Children who had been breastfed for more than three months had significantly higher test scores than did children who had breastfed for less than three months or had not breastfed at all.

1. Not all 607 students in the study participated in both tests. The results in Table 1 are for the 374 students who took both tests.

2. Students in the first year of the study experienced an average gain of 6 points, from 94 points in fall 2001 to 100 points in spring 2002.

Home Environment

HOUSEHOLD SIZE, INCOME, AND TEST SCORES

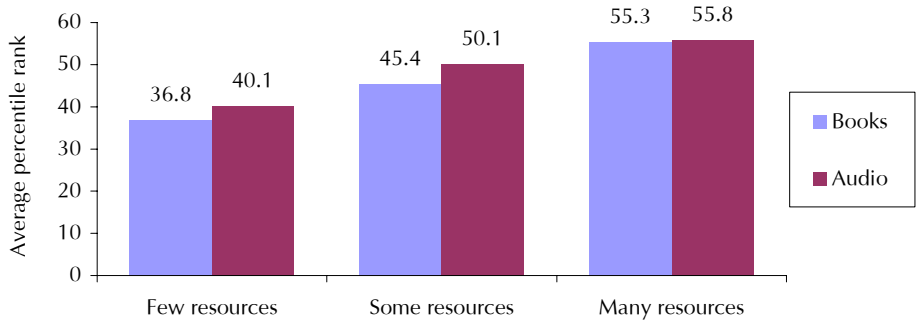
The average household size in our study was 5.4 people. Three in four households had only one minor child living at home.

- Children from households with two to five people had higher test scores than did children from larger households. This suggests that children in smaller households may receive more individual attention.
- The average household income among participants was $41,057 (state average: $56,961). Children from higher-income households tended to perform better on tests than did lower-income children. (For related information, see "Money Matters" by K. Ishibashi at www.ksbe.edu/pase/pdf/Reports/Educational_Policy/02_03_18.pdf.)

LEARNING MATERIALS AND FAMILY ROUTINES

The more learning materials at home, the better the test scores (Figure 1). Learning materials—either owned or borrowed from the library—include books, records, tapes, and CDs.

Figure 1. Student test scores in relation to learning materials at home
[Average percentile rank, spring 2003]



Note: For books, "few resources" = 0–20, "some resources" = 21–30, and "many resources" = 30 or more. For audio materials, "few resources" = none, "some resources" = 1–10, and "many resources" = 10 or more.

Regular routines at home have a positive effect on a child's performance at school. In our sample, the following routines were related to higher test scores.

- Regular bedtime
- Adequate sleep (nine hours per night)
- Consistency in going to school well rested, fed, and alert
- Responsibility for household chores

The language spoken at home also affects a child's learning. Children in households where English is the primary language had higher scores than did children in other households.

Primary Caregivers

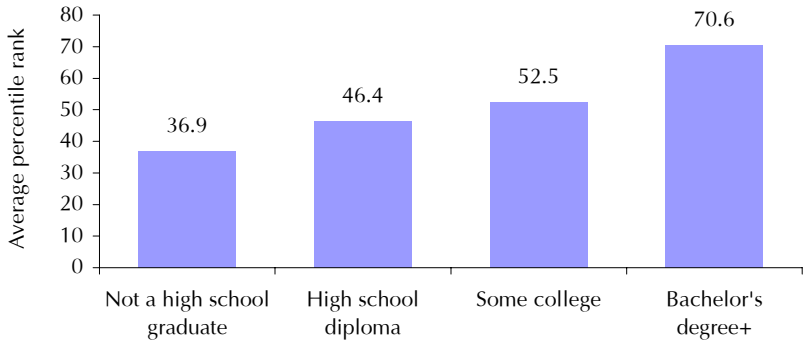
A primary caregiver is a parent or other adult who is responsible for a child's care. In this study, 92 percent of the primary caregivers were parents. Primary caregivers in our study had the following traits.

- **Age:** The average age was thirty-three.
- **Sex:** More than 90 percent were female.
- **Race/ethnicity:** About 60 percent were Native Hawaiian.

PRIMARY CAREGIVERS AND TEST SCORES

Primary caregivers have a major influence on a child's well-being. Figure 2 shows the connection between the caregiver's education and the child's test scores. These findings echo other research showing the link between parents' education and children's early learning.

Figure 2. Student test scores in relation to the primary caregiver's educational level
[Average percentile rank, spring 2003]



- The higher the caregiver's education, the higher the child's test scores.
- The most dramatic jump in test scores occurs at the bachelor's degree level (70.6 percent, up from 52.5 percent for "some college").
- Caregiver involvement in school makes a difference. Children whose caregivers were active in their schooling had an average percentile rank of 57.6. Children with less-involved caregivers had a percentile rank of 39.1 (not shown).
- Fluency in the English language also influences outcomes. Children whose primary caregiver had difficulty with English had lower test scores than did other children (not shown).

Classrooms and Schools

The information in this section is based on teacher surveys and site visits by the research team.

CLASSROOMS

Our study shows a connection between student achievement and the following classroom traits.

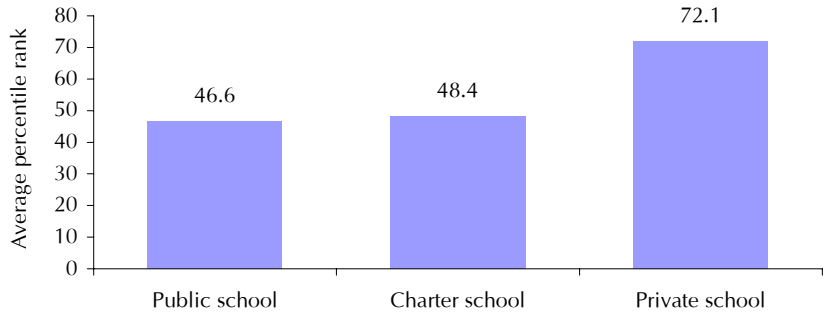
- **Number of activity centers.** The more activity centers in a classroom, the higher the test scores of students.
- **Time devoted to small-group activities.** Student test scores were highest in classrooms where the teachers assigned small-group activities 30 to 40 percent of the time. Outcomes were less favorable in classrooms where small-group activities occupied less than 30 percent or more than 40 percent of the time.
- **Time devoted to individual activities.** Student test scores were generally highest in classrooms where teachers assigned individual activities 15 to 25 percent of the time or more than 35 percent of the time.

SCHOOLS

The following school traits have an impact on student achievement.

- **Well-maintained buildings.** The better the building was maintained, the higher the test scores of students.
- **High-quality facilities.** Students in schools with high-quality facilities (e.g., library, gym, playgroup, computers, and lunchroom) tended to score higher than did students in less-equipped schools.
- **Safe neighborhoods.** Students who attended schools in safer-feeling neighborhoods had relatively high scores at the end of their kindergarten year. Scores were lower among students attending schools in neighborhoods with unsafe features such as graffiti, litter, and loitering adults.
- **Private schools.** Figure 3 shows that students who attended a private kindergarten had much higher test scores (72.1 percentile rank) at the end of kindergarten than did those in public schools (46.6 percentile rank) or charter schools (48.4 percentile rank).

Figure 3. Student test scores in relation to type of school
[Average posttest percentile rank, spring 2003]



Implications

Findings from the Preschool and Beyond Study suggest specific ways to enhance the learning experiences of our keiki.

WHAT CAN PARENTS DO?

- **Establish a routine.** Establish a reasonable routine at home and stick to it. Children do better in school when they have a regular schedule at home for eating, sleeping, reading, and doing chores.
- **Start teaching early.** Teach children about school expectations at an early age. Get them ready for the classroom. Give them individual attention. Be involved at school. Teachers reported that students who began kindergarten at a high level of academic readiness had better test scores compared with students who were less prepared.
- **Surround your child with learning materials.** Children learn best when they have lots of educational resources at home. Books and audio materials introduce children to a wide range of educational opportunities. Such exposure may in turn affect the attitude of young learners. Our study shows that a positive attitude toward learning often results in higher test scores.
- **Read to your keiki daily.** Picture books improve a child's vocabulary and reading skills. Reading to your keiki also enhances parent–child interaction, which improves a child's scholastic abilities. Most parents in our study said they read to their children at least once a week.
- **Teach your keiki what their name means.** Findings from several years of Preschool and Beyond Data show that young Native Hawaiian learners who have a Hawaiian name and know what their name means perform well on standardized tests. This suggests the importance of self-identity and the impact of intergenerational exchanges.
- **Pursue your own education.** Participate in parent workshops and training classes at your school, community or local college. Our study shows that the more education you have as a parent, the better you can support your child at school.

WHAT CAN YOUR CHILD'S TEACHERS DO?

- **Focus on early childhood.** The Preschool and Beyond Study echoes existing research that demonstrates the benefits of investing resources in early childhood learning.
- **Create more activity centers.** Young children seem to respond well to multiple activity centers at school. More activity centers = better performance on standardized tests.
- **Balance individual and group instruction.** Our findings suggest that children perform well on standardized tests when at least one-third of the instruction time in the classroom is devoted to small-group activities.
- ***Mālama* (care for) the facilities.** Maintaining facilities and creating a positive physical setting are factors that may affect children's learning. Appearances make a difference: In our study, students in schools with decorated and attractive hallways tended to perform better on tests than did students in schools where hallways appeared bare.
- **Know the students' home environment.** The home environment may have the greatest impact on children's academic accomplishments—regardless of the type of school. Ask teachers for tips on how to support (and supplement, where necessary) your child's learning at home.

LIMITATIONS

The findings in this report are limited due to the number of study participants. Roughly one-third of the students invited to participate in the Preschool and Beyond Study (374 students out of about 900) took the test at the beginning and end of the school year. This limitation must be considered when interpreting the data; test score results may not be generalizable to the larger population.

ABOUT PASE

The Policy Analysis & System Evaluation (PASE) department at Kamehameha Schools conducts research on Native Hawaiian well-being. PASE also evaluates the effectiveness of programs that serve Native Hawaiians. PASE's studies contribute to informed decision making at Kamehameha Schools and are valuable for educators, administrators, parents, families, and leaders throughout the Hawaiian community.

OTHER STUDIES

PASE recently published *Ka Huakaʻi: 2005 Native Hawaiian Educational Assessment,* which highlights trends, progress, and challenges in Native Hawaiian education. PASE also publishes *Hūlili,* a journal of multidisciplinary research on Hawaiian well-being. Other PASE reports examine Hawaiian population projections, early childhood, and culture-based education. All are available at www.ksbe.edu/pase.

PASE Publication 05-06:9