Do We Know if Wisconsin's Four-Year-Old Kindergarten Positively Impacts Children's Development?

As enrollment in Wisconsin's four-year-old kindergarten (4K) initiative grows, interest in measuring 4K's impact on child development has also increased.

A variety of national studies (including Reynolds, 2001; Schweinhart, 2002) show substantial benefits to low income children participating in quality prekindergarten programming. Studies in several states (including Moreau, 2002 and Gormley, 2005) also demonstrate that prekindergarten participation benefits children from all income levels. Do these results hold true for Wisconsin children?

Presently, Wisconsin does not have the data to correlate student performance on statewide tests with past 4K participation. We can, however, explore the impact of 4K participation in this state by reviewing data from one national study that included Wisconsin and from several Wisconsin school districts that conducted their own studies. (Note: the state's data collection system has been redesigned to offer a better look at the impact of 4K as soon as recent 4K participants are old enough to take statewide academic tests.)

Key findings are summarized below:

1. The National Center for Early Development and Learning study of State-Wide Early Education Programs (SWEEP) conducted a study that examined variations among prekindergarten programs in five states (Massachusetts, New Jersey, Texas, Washington, and Wisconsin). The study also related program variations to child outcomes at the end of prekindergarten and in kindergarten.

   In Wisconsin, one classroom in each of 100 4K sites was randomly selected to participate in the study during the fall of 2003. Within each classroom, four children (two boys and two girls) were randomly selected, pending parental consent, resulting in a sample of 400 Wisconsin 4K students. Data collection, including direct assessment of children's early academic skills, took place in fall 2003 and spring 2004. Key findings related to children's progress are summarized below:

   - In the spring of the 4K year, Wisconsin 4K students were above the national average on three of the four academic skills assessments having standardized national averages of 100, and scored particularly high on a letter-word identification subtest.
   - Wisconsin students showed growth on all ten academic skills assessments between the pre-test and the post-test administrations. Gains were particularly noteworthy in students' ability to write their names and identify letters.
   - Academic assessment information categorized by students' economic status showed that the performance of both poor and non-poor students improved between the fall 2003 pre-test and the spring 2004 post-test on all measures, but at both points, the scores of poor children were below their non-poor peers.
   - Wisconsin 4K students improved on all nine dimensions in language and literacy. Pre-test ratings on the 1-5 scale ranged from a low of 1.53 to a high of 2.90, and post-test ratings ranged from a low of 2.22 to a high of 3.75.

- All four dimensions of children's social skills (assertiveness, frustration tolerance, task orientation, peer social skills) improved, while two of the three dimensions of children's behavior problems (conduct problems, internalizing problems, learning problems) showed slight decreases.
- Neither poor nor non-poor students showed any change in behavior problems, while non-poor students improved more than poor students in their social skills.

2. The Eau Claire School District used the CORT (Child Observation Recording Tool), which is a locally-designed, criterion-based assessment, to measure the progress of children participating in the Eau Claire 4 Tomorrow (EC4T) program. Relevant findings include:
   - CORT data show that all reported domains and sub-domains showed improvement between the fall and winter assessments during the 2005-06 academic year, as measured by the percentage of skills mastered by participating children. Gains were particularly large in literacy, cognition and general knowledge, and fine motor development.

3. The Montello School District gathered and reported data from the 2nd grade *TerraNova* standardized test to help assess the academic progress of students who participated in the Montello Early Learning Center (MELC), which opened in Fall 2001. Relevant findings include the following:
   - Comparing the performance of all Montello 2nd graders on the *TerraNova* between 2001-02 and 2004-05, scores are up slightly in all subject areas (Reading, Language Arts, Math, Science, and Social Studies), notwithstanding some year-to-year fluctuation.
   - In comparing 2nd grade Montello students who attended MELC to all tested 2nd graders in the district, MELC students scored slightly higher in Reading and Science, slightly lower in Language Arts, and the same in Social Studies and Math.

4. The Wausau School District assessed participants in 4K programs using a variety of measures, including Receptive One-Word Picture Vocabulary tests and pre-IPT tests. Relevant findings include the following:
   - Data from the Receptive One-Word Picture Vocabulary Test shows that the performance of both English-speaking and English Language Learner students improved between fall pre-tests and spring post-tests in both 2003-04 and 2004-05. Gains were particularly noteworthy for ELL students during 2003-04.
   - Over the past three years, ELL students gained an average of 9.61 standard score points on the One-Word Picture Vocabulary Test, while English-speaking students gained an average of 5.98 standard score points.
   - Pre-IPT test data show that many students were moved from low English proficiency levels A and B into higher English proficiency levels C, D, and E during 2004-05 and in prior years.

While it is difficult under Wisconsin's current assessment system to draw meaningful large-scale conclusions about the impact of 4K programming on children's development, data from the national SWEEP study as well as data collected by individual districts seem to indicate that four-year-old Kindergarten is benefiting the development of participants. In the future, data collected at the state level will provide a more complete picture of this impact.