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State Capitol North, 325 Don Gaspar, Suite 200
Santa Fe, New Mexico 87501
Phone: (505) 986-4591 Fax: (505) 986-4338
<http://www.nmlegis.gov/lcs/lesc/lescdefault.aspx>

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December 14, 2011

MEMORANDUM

TO: Legislative Education Study Committee

FR: Phil Baca

RE: STAFF REPORT: K-3 PLUS PROGRAM EVALUATION REPORT

INTRODUCTION

In 2007, legislation endorsed by the Legislative Education Study Committee (LESC) was enacted to establish K-3 Plus, a six-year pilot project that extends the school year in kindergarten through third grade by at least 25 instructional days. As with New Mexico PreK, this early childhood education program is governed by statutes requiring that the program be evaluated and the results reported each year to the Legislature and the Governor.

In June 2011, the LESC heard a staff presentation describing changes in the program application for school year 2011-2012 and providing a preview of a five-year study of the effectiveness of the K-3 Plus program.

This staff brief and presentation provides an update on the new program requirements and the findings of a first look at the effectiveness of the K-3 Plus program. The staff brief concludes with a background section that summarizes the statutory provisions of the program and that reviews the funding history of the program.

New Program Requirements for School Year 2011-2012

As reported in June 2011, the K-3 Plus application for school year 2011-2012 contained the most changes since the inception of the program. One change was in the basis for funding:

from a classroom or teacher basis to a student basis. Other changes were in program design and in requirements for full funding. For the first time in the course of the K-3 Plus program:

- “districts should put an increased emphasis and time on literacy instruction” in order to align with the Governor’s education priorities;
- the program “should be an integral part” of each district’s or charter school’s program “to insure [sic] that all children read by third grade”;
- “it is important to prioritize data-driven literacy instruction and interventions to the lowest 25% of students in each grade level”;
- the amount of time spent in literacy instruction must vary according to the level of students in the Response to Intervention Framework: 30 additional minutes for students in Tier 2 and 60 additional minutes for students in Tier 3; and
- the amount of awards “may be reduced based on the actual number of students completing at least 20 of the 25 days of the K-3 Plus program.”

In response to queries from LESC staff, the Public Education Department (PED) has provided the following information regarding the status of these requirements, as well as updates on enrollment and funding:

- Of the 6,630 students projected to participate during school-year 2011-2012, 4,942 enrolled, and 4,562 attended 18 or more days.
- Of the \$5.3 million appropriation, \$3,702,615 has been allocated during school year 2011-2012.
- Funds for school year 2011-2012 were distributed as announced in June of 2011, with the exception that reductions were made when students attended 18 or fewer days instead of 20 or fewer days as originally indicated.
- Regarding the changes in program design, PED reports that the first one in the list above – an increased emphasis and time on literacy instruction to align with the Governor’s education priorities – was a feature of the application itself; and that the department will include information about the programs’ responses to the other changes in the year-end report.

Finally, according to the FY 13 funding request submitted by PED, an appropriation of \$8.5 million is included for K-3 Plus.

EXTERNAL PROGRAM EVALUATIONS

As reported during the 2010 interim, the Start Smart K-3 Plus Project, at Utah State University, recently received approximately \$19.1 million in funding to conduct a full evaluation of the K-3 Plus program based on cost-effectiveness (rather than implementation) based on two goals: (1) to determine the cost-effectiveness of the K-3 Plus program in reducing the achievement

gap; and (2) to use the evaluation to support the scale-up and replication of the K-3 Plus program.

The \$19.1 million includes:

- approximately \$15.3 million from the US Department of Education’s Investing in Innovation (i3) program; and
- a required 20 percent funding match which has been met with dollars received from foundations and in-kind contributions from districts and publishers.

The evaluation demonstrates a definite benefit to K-3 Plus participants. When comparing New Mexico Standards Based Assessment results of K-3 Plus, third grade participants with third graders not participating in K-3 Plus the results show the following for 1,000 students;

- over 100 additional students were performing on grade level for Writing;
- over 200 additional students were performing on grade level for Reading; and
- over 300 additional students were performing on grade level for Math;

BACKGROUND

Statutory Provisions

The K-3 Plus pilot project is designed to demonstrate that increased time in kindergarten and the early grades narrows the achievement gap between disadvantaged students and other students, increases cognitive skills, and leads to higher test scores for all participants. K-3 Plus, which is administered by PED, will measure the effect of the additional time on literacy, numeracy, and social skills development of the participants. Among its other provisions, the statute creating K-3 Plus:

- requires PED, in evaluating applications for K-3 Plus programs, to grant priority to those schools with Kindergarten Plus programs that have received one or more satisfactory annual evaluations;
- specifies that K-3 Plus must be conducted in high-poverty public schools – that is, schools in which at least 85 percent of the students are eligible for free or reduced-fee lunch at the time of application;
- requires PED to determine application requirements and procedures, as well as evaluation criteria;
- requires PED to provide additional professional development for K-3 Plus teachers in how young children learn to read;
- specifies that teachers and educational assistants must be paid at the same rate and under the same terms as teachers and educational assistants in regular educational programs;
- requires that students be evaluated at the beginning of the program and that their progress be measured (1) in literacy, using the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) in kindergarten through grade 3; and (2) in numeracy in grades 3 and 4; and

- allows PED to use up to 4.0 percent of any legislative appropriation for K-3 Plus for professional development for participating educators and department administrative costs.

State Funding, Including Approved Programs by Fiscal Year

The Legislature has appropriated a total of almost \$32.9 million in General Fund revenue to fund the K-3 Plus pilot program:

- \$7.2 million for expenditure in FY 08:
 - for school year 2007-2008, PED approved 54 programs serving 5,069 students in 17 school districts.
- \$7.2 million for expenditure in FY 09:
 - for school year 2008-2009, PED approved 92 programs serving 6,996 students in 25 school districts; and
 - in addition, the Legislature appropriated \$3.0 million in Temporary Assistance for Needy Families funds, which were vetoed.
- \$8.5 million for expenditure in FY 10:
 - as a result of the special session in October 2009, however, this appropriation was reduced by 6.5 percent to \$7.9 million; and
 - for school year 2009-2010, PED approved 93 programs serving 8,053 students in 25 school districts.
- \$5.5 million for expenditure in FY 11:
 - in the 2010 special session, the appropriation was reduced by 0.544 percent to \$5,470,100. After the 3.244 percent reduction in August 2010, \$5,292,600 was available for K-3 Plus; and
 - for school year 2010-2011, PED approved 62 programs serving 5,816 students in 19 districts, plus one state-chartered charter school.
- \$5.3 million for expenditure in FY 12:
 - for school year 2011-2012, PED allocated \$3,702,615; and
 - approved 50 programs serving 4,564 students in 14 districts, plus one state-chartered charter school.

PRESENTERS

For this presentation, the co-director and co-investigator for Start Smart K-3 Plus at Utah State University will provide additional information:

- Dr. Linda Goetze, Project Co-Director for Start Smart K-3 Plus at Utah State University; and
- Dr. Dammon Cann, Project Co-Investigator for Start Smart K-3 Plus at Utah State University.

A First Look at the Effectiveness of New Mexico K-3 Plus

i3 New Mexico StartSmart K-3 Plus Team

Presented by:

Linda D. Goetze, Ph.D.

Damon Cann, Ph.D.

Utah State University

Presented to the Legislative Education Study Committee

Representative Rick Miera, Chair

Senator Cynthia Nava, Vice-Chair

December 15th, 2011



K-3 Plus Evaluation Summary

- ❧ K3 plus provides 25 additional days for students in high poverty schools at an affordable cost (\$800 per student).
- ❧ Federal government is funding Start Smart evaluation to see whether it can effectively reduce the achievement gap.
- ❧ Preliminary outcomes show K3 plus significantly boosts student 3rd grade achievement scores in reading, math and writing
- ❧ K3 plus saves money by avoiding need for more costly remediation programs and retention in 3rd grade
- ❧ Not enough kids have access to this program, nor the opportunity to participate before each school year from K-3

What Data Exist?

- ❧ Demographic:
 - ❧ Student Teacher Accountability Reporting System (STARS)
- ❧ Achievement:
 - ❧ New Mexico Standards-Based Assessment (NMSBA or SBA)
- ❧ Funding, Cost and Benefits
 - ❧ Third grade retention and remediation costs and benefits to participants and society
 - ❧ Child care benefits to families
 - ❧ Other long-term benefits

Selection Bias

- ❧ Is it appropriate to do a direct comparison of K-3 Plus students with non K-3 Plus enrolled Students?
- ❧ No... compared with their peers, K-3 Plus students are more likely to...
 - ❧ Be at schools with high rates of free/reduced lunch
 - ❧ Be ethnic minorities
 - ❧ Have been retained in grade
 - ❧ Be in special education programs
 - ❧ Be English learners

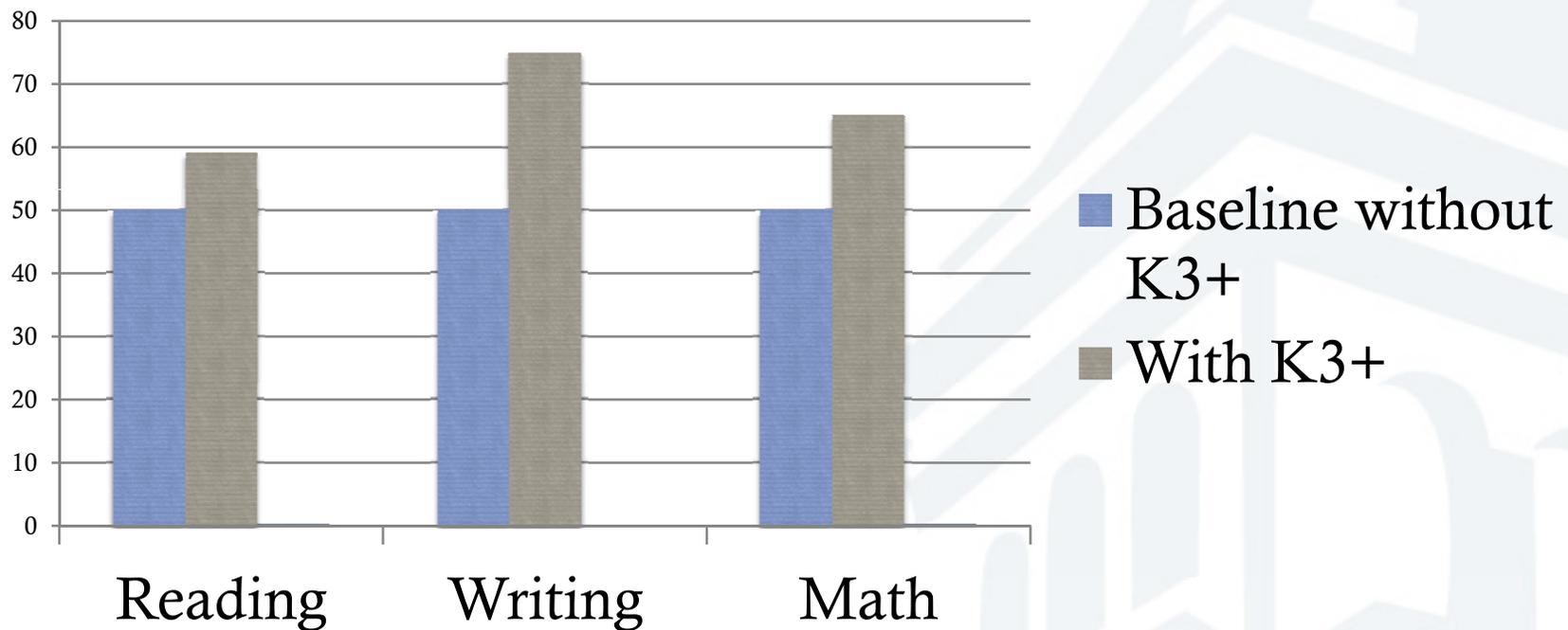
What to do?

- ∞ Solution 1: Randomized experiment
 - ∞ From a pool of families who agree to enroll, randomly assign half to summer services and the other half to regular school year only
 - ∞ This is the approach of USU's New Mexico StartSmart K-3 Plus study funded by Department of Education's i3 program
- ∞ Solution 2: Address Differences
 - ∞ In essence, we first look at factors that effect selection into K-3 Plus and then “control” for differences in the likelihood of selection into the program

New Mexico SBA Results: 2009-2010

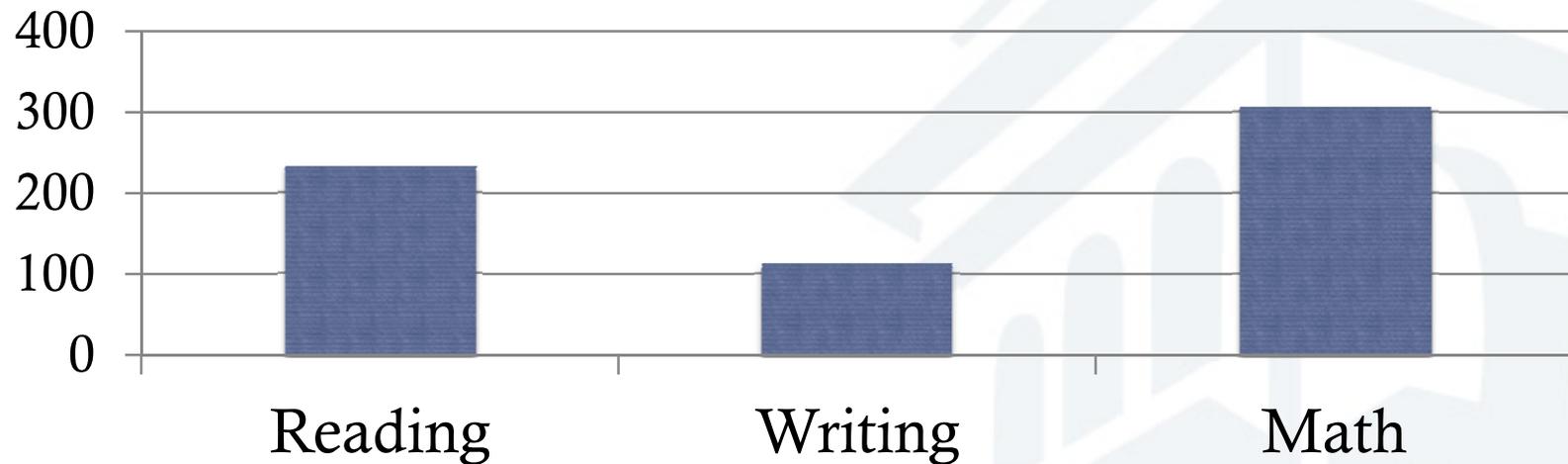
- Based on analysis of 11,769 total students and 1,640 who had K-3 Plus for at least one year immediately prior to 3rd grade and 10,129 did not have K-3 Plus immediately prior to 3rd grade, K-3 Plus students gained:
 - Reading: 7.5 points
 - Writing: 43.8 points
 - Math: 12.4 points
- Different means & points possible on exams make percentile performance a more intuitive measure:

2009-10 SBA Data: Effect of K3+ on Percentile Rank



2009-10 SBA Data: Effect of K-3 Plus on Grade-Level Proficiency

Additional Students Performing at Grade Level per 1000 served in K-3 +



Some Cost Benefit Implications of K-3 Plus SBA Results

- ❧ There is not data on how many years of K-3 Plus the 2009-10 third grade students received.
- ❧ The students in K-3 Plus in 2009-10 SBA analysis received at least one year of K-3 Plus prior to third grade.
- ❧ The SBA data show that 234 out of 1000 third grade students that attended K-3 Plus in 2009-10 achieved 3rd grade reading proficiency that wouldn't have been proficient without K-3 Plus services.

Some Cost Benefit Implications

Grade Retention

- ☞ Serving 1000 students at current K-3 plus funding amounts costs \$800,000 per year or \$1.6 million for two years, \$2.4 million for three years and \$3.2 million for four years.
- ☞ One year of third grade retention costs \$6858 per student and for 234 students the total cost would be \$1,604,722.
- ☞ Mandatory summer school cost savings for these 234 students is \$522 per student or \$122,148 per year for 234 students without materials or transportation.
- ☞ Albuquerque Public Schools estimates the cost of reading remediation services to be \$14.2 million annually for 6,903 students in K-3 or \$2057 per student. Las Cruces estimate is \$2079 per student.
- ☞ Preventing one year of retention, remediation and mandatory summer school services for these 234 students saves approximately \$2,208,258.

Some Cost Benefit Implications Grade Retention

- ∞ The cost of two years of K-3 Plus to students who are enrolled in the program is a more cost-effective strategy than grade retention for the 23.4% of students that are estimated to have achieved reading proficiency as a result of K-3 Plus enrollment.
- ∞ The benefits from reduced grade retention and remediation services offset almost all of the costs of 3 years of K-3 Plus services.

Some Cost Benefit Implications: Child Care for Families

- ❧ K-3 Plus services are high quality educational services focused on literacy and numeracy not child care.
- ❧ There is a benefit to families and to CYFD as measured by the reduction in child care services needed for K-3 Plus services when they are in 25 days of summer programming.
- ❧ K-3 Plus child care value is estimated at \$421.16 for the 5 weeks of K-3 Plus services per family and student not including the value of K-3 Plus provided transportation.

Some Cost Benefit Implications: Child Care for Families

- ☞ These child care providers were open an average of 11.6 hours per day and that results in an average price of \$1.91 per hour.
- ☞ K-3 Plus is a minimum of 150 total hours of service during the summer (not including transportation time).
- ☞ The rate study is based on an average of 173.33 hours per month and a rate of approximately \$2.81 per hour and doesn't include transportation to child care that is provided by the family.
- ☞ The five-star child care value of K-3 Plus based on these data is estimated at \$421.16 for the 5 weeks of K-3 Plus services per family and student for all families that participate in K-3 Plus and this is without the value of K-3 Plus provided transportation.

Cost Benefit Implications: Third Grade Retention and Child Care

- After deducting the \$421 per family benefits of child care the net expenditure to society of K-3 Plus is estimated to be \$379 (\$800 minus \$421) per student.
- At that rate the cost of all four years of K-3 Plus for 1000 students is \$1,516,000 which is more than offset by the savings achieved through reduced grade retention of \$1,604,722 for the 234 students that achieved that benchmark in 3rd grade.

Some Cost Benefit Implications of K-3 Plus SBA Results

- ❧ There is a need for better data on the cost of remediation services since the available data vary widely between districts.
- ❧ These data don't attach a dollar benefit to the gains in numeracy and writing that were identified.
- ❧ The cost benefit estimates don't include the value of work and tax revenues generated for students that are able to join the labor force at least a year earlier when they are not retained in grade.
- ❧ These data don't include long-term benefits that may result from increased performance of K-3 Plus attending students such as decreased special education services; decreased delinquency; increased graduation rates and increased college attendance and lifetime productivity.

Conclusions

- ❧ These data support the continuation and expansion of K-3 Plus in New Mexico.
- ❧ Start Smart K-3 Plus funding for kindergartners in our partner districts will end after the summer, 2012.
- ❧ Several districts such as Las Cruces and Roswell dropped from New Mexico state-funded K-3 Plus because their cost is higher than \$800 per student and they don't have funds to make up the difference.

Recommendations

- ❧ Extend the K-3 Plus program that is scheduled to end next year.
- ❧ Consider different per student funding for K-3 Plus in some schools and school districts particularly those where class sizes are small such as very rural schools
- ❧ Fund more K-3 Plus slots so that families, schools and districts that want to participate have access to state funds to continue services to high need students that benefit from K-3 Plus services.
- ❧ Help close the achievement gap early when it makes a difference in student and family lives over the long-term.

Contact

Linda D. Goetze, Ph.D.
Start Smart K-3 Plus
Project Co-Director
6819 Old Main Hill
Utah State University
Logan, Utah 84322-6819
435 770 5829
linda.goetze@usu.edu

Damon Cann, Ph.D.
Start Smart K-3 Plus
Project Co-Investigator
Political Science Department
Utah State University
Logan, Utah 84322-0725
435 797 8705
damon.cann@usu.edu