

# Report Related to H.270

**REPORT**

April 2014

**Report on Progress of Children in Prekindergarten  
Education in 2012-2013/Impact of  
Prekindergarten Education on Kindergarten  
Readiness**

**Submitted to the Senate Appropriations Committee  
by Secretary of Education, Rebecca Holcombe**



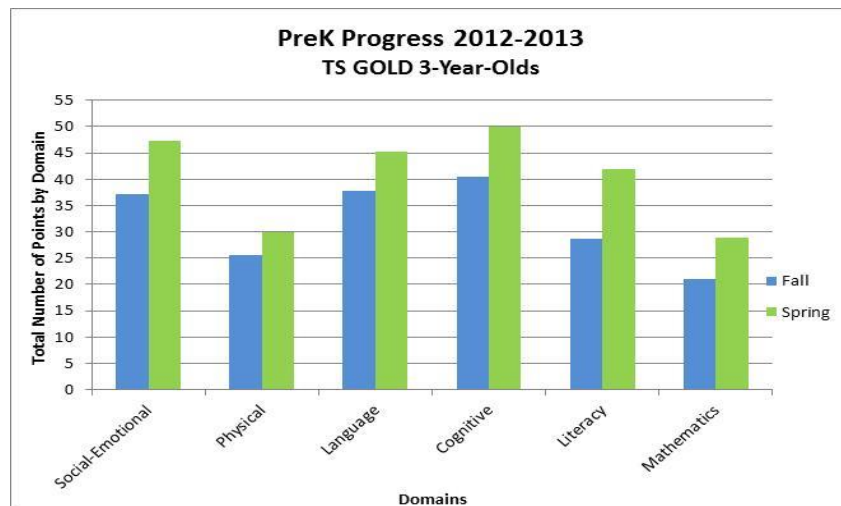
# Vermont's Prekindergarten Education Program

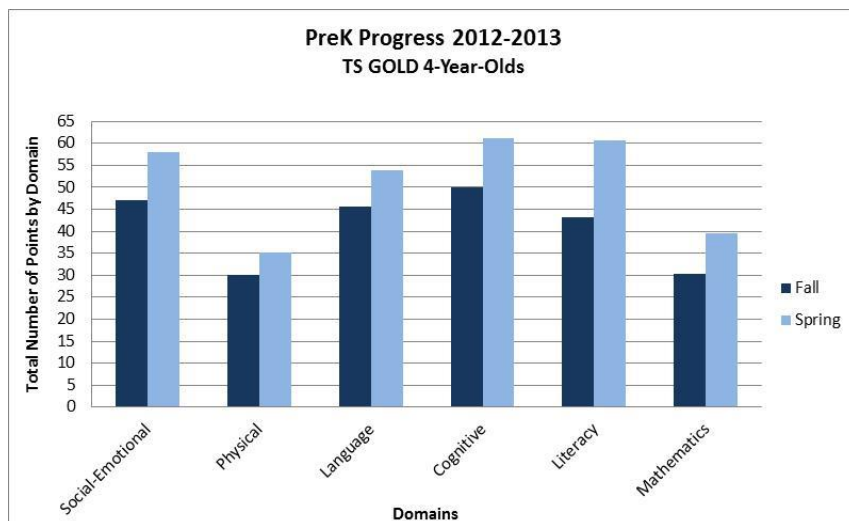
## Children's Progress Report 2012-2013

Early learning and development programs that offer publicly funded prekindergarten education (PreK) are required to collect and report child progress data annually. During the past two years, the Agency of Education (AOE) and the Department for Children and Families (DCF) have stipulated that all programs must use Teaching Strategies GOLD (TS GOLD) to comply with this requirement. TS GOLD is a developmentally appropriate and authentic assessment of young children.

The TS GOLD data show the amount of progress PreK children make during the school year. The child's teacher collects and analyzes observations and documentation throughout the 35 weeks of PreK. This assessment also serves to deepen the teacher's knowledge of each child over the course of the school year. The TS GOLD results measure the growth the child has made from the start of the year, no matter where that starting point is, to where the child is at the end of the year. Because TS GOLD is used nationally, we can also compare the progress of our children in PreK to the progress of children across the country.

The charts below summarize the progress children in Vermont PreK programs made in 2012-2013 as measured by TS GOLD. These charts clearly show that both age groups, three- and four-year-olds, made progress in all six areas of development: social-emotional, physical (i.e. fine and large motor), language, cognition, literacy, and mathematics. The growth was most pronounced in the Literacy domain for both age groups.

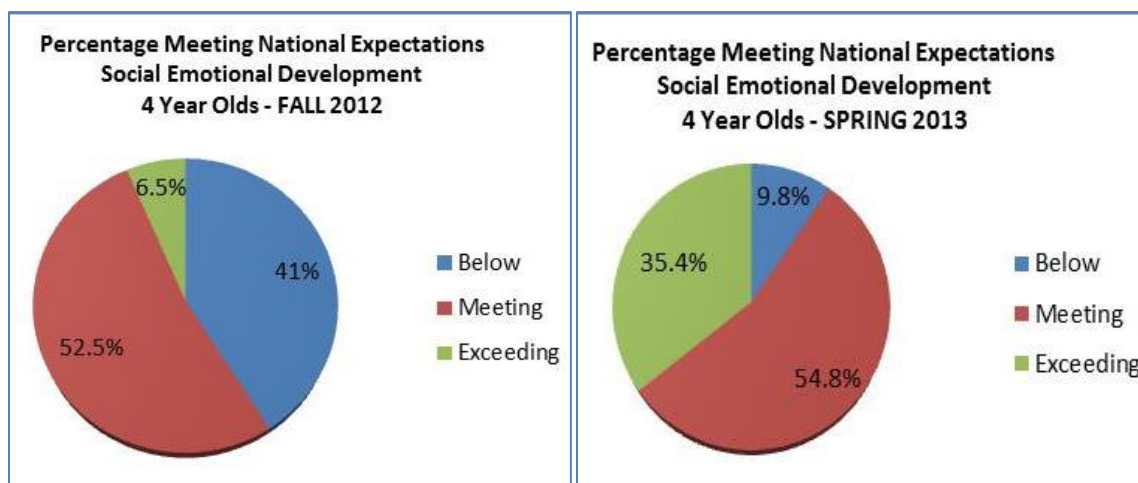




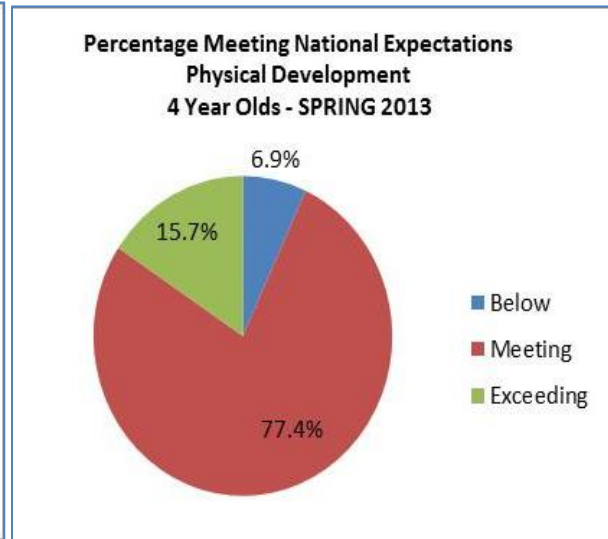
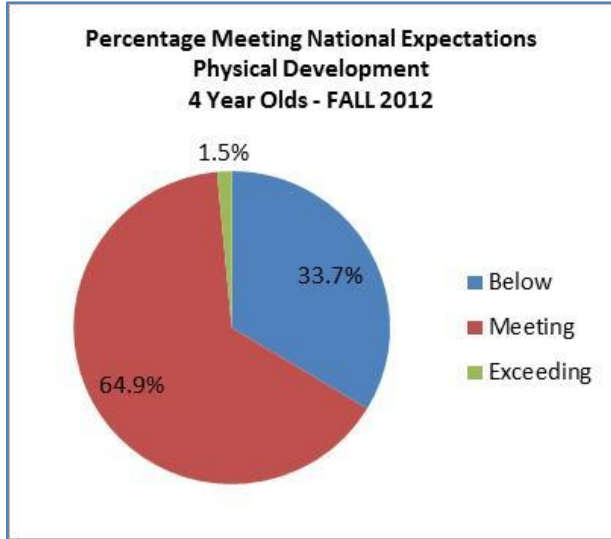
NOTE: Total Number of Points is the sum of adding the ratings (1-9) for each item within a domain. Domains vary in the number of items, so the totals vary. For 4-Year-Olds scale, the Social Emotional domain top is 62 and the bottom is 46, whereas for Physical the top is 39 and the bottom is 29.

It is expected that children would show some level of increased knowledge and skills during the nine months of the school year. To account for this fact, a more detailed analysis of the TS GOLD data was completed. The progress of children in Vermont PreK programs was compared with “widely held expectations” generated by TS GOLD results from a national sample (approximately 20,000) used to validate TS GOLD. The following pie charts show the percentage of children below, meeting, or exceeding these nationally established expectations for the six developmental areas. The data shown here are for the four-year-olds attending PreK programs in 2012-2013. As is evident across all developmental areas, the percentages of children meeting and exceeding the national expectations increase significantly from fall to spring. In other words, children in Vermont preK programs seem grow more than the national norm. The TS GOLD data for the three-year-olds evidence a similar pattern.

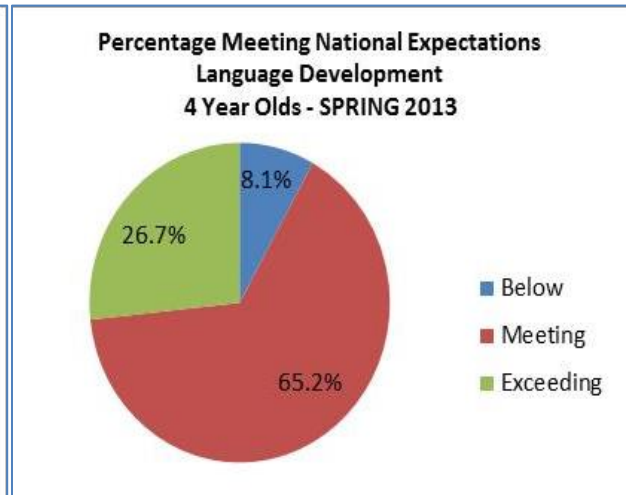
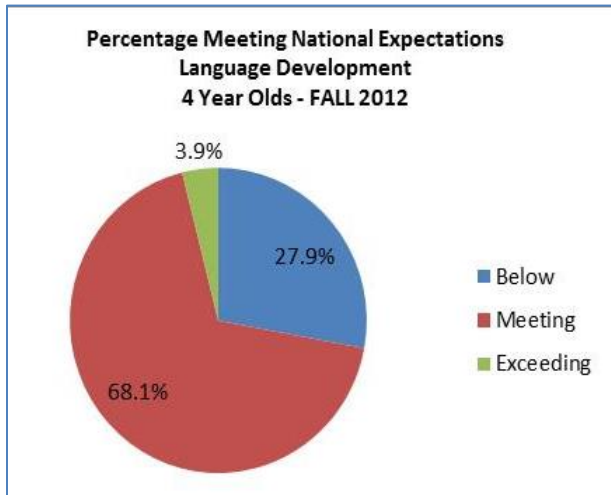
## SOCIAL EMOTIONAL DEVELOPMENT



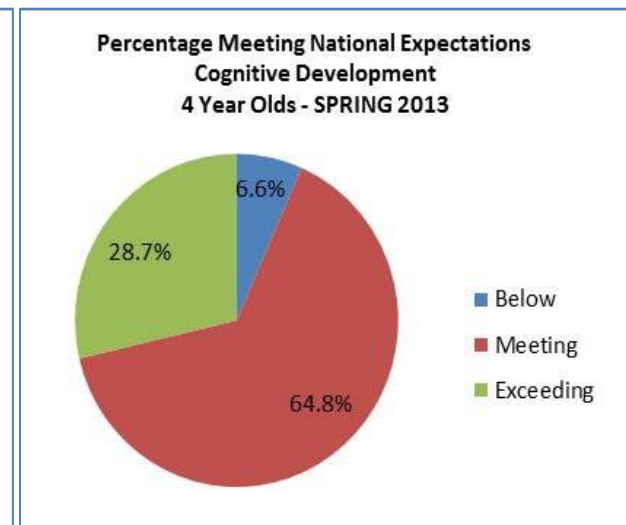
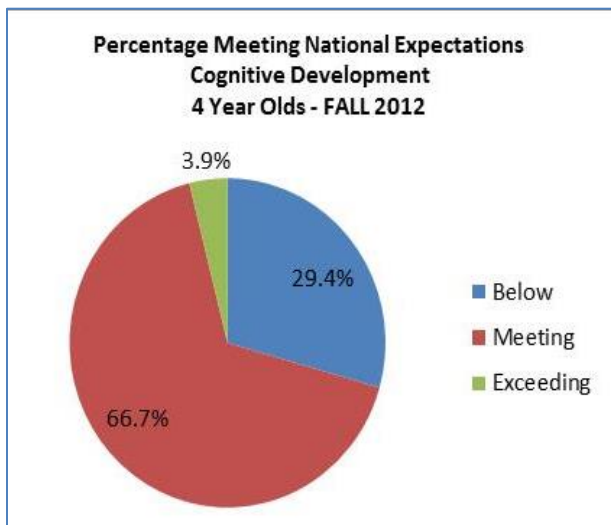
## PHYSICAL DEVELOPMENT (FINE & LARGE MOTOR DEVELOPMENT)



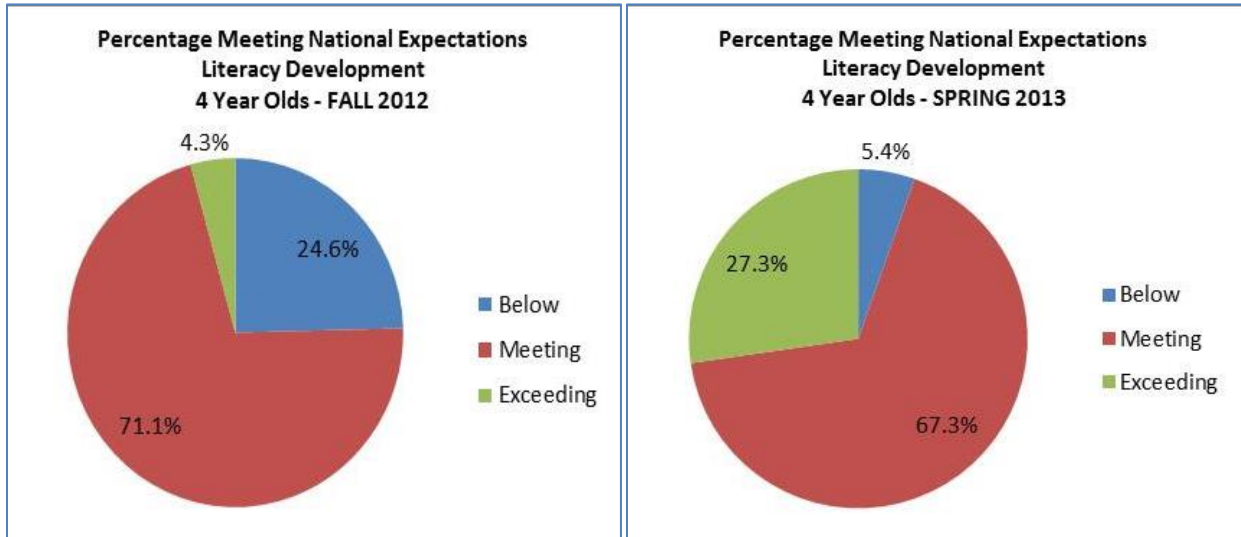
## LANGUAGE DEVELOPMENT



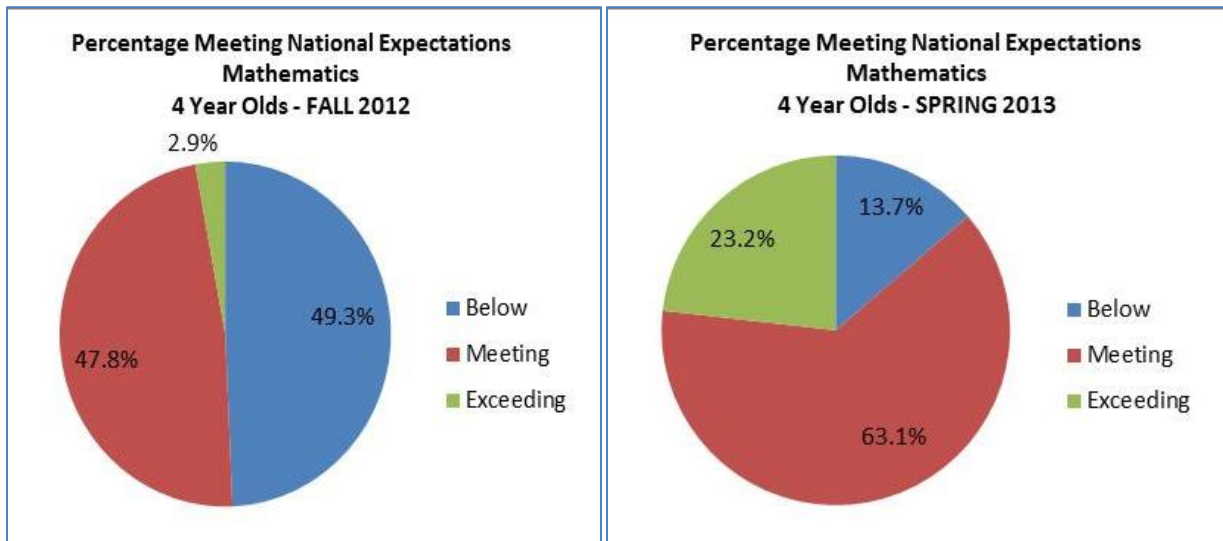
## COGNITIVE DEVELOPMENT



## LITERACY DEVELOPMENT



## MATHEMATICS



## Vermont's Prekindergarten Education Program

### Prekindergarten Education & Kindergarten Readiness

Does participating in prekindergarten education increase the possibility that children will be ready for kindergarten? National data support a confident “yes” to this question. Several studies, starting with the widely known and respected Perry Preschool and the Abecedarian Projects to more recent studies of New Jersey’s Abbott School District and Boston Public School’s prekindergarten programs; all provide compelling evidence of prekindergarten education’s positive impacts on kindergarten readiness and improved outcomes beyond kindergarten.

But what about Vermont’s publicly funded prekindergarten (PreK) programs? Our data suggest that children who participate in PreK are more likely to be ready for kindergarten, and the effect is most pronounced for children living in poverty and children who have access to two years of PreK, as opposed to one.

Vermont’s Kindergarten Readiness Survey (KRS) has been used to measure children’s readiness for kindergarten since 2000. Vermont developed this assessment to measure the knowledge and skills children bring when they arrive at kindergarten, including skills identified as foundational skills for learning. The kindergarten teacher determines the level of the child’s skills after a few weeks of observations, relative to others in the class and on a fixed scale. An overall rating of “readiness” is calculated based on whether the child is “practicing” or “performing independently” on all the items of the KRS.

The 2012-2013 and 2013-2014 KRS data were analyzed to determine to what degree attending publicly funded PreK in Vermont had on children’s kindergarten readiness. In our data, the more children who are eligible for free or reduced lunch attend PreK, the more likely they are to be ready for kindergarten. Specifically, children from low income backgrounds who don't attend PreK have a 30% probability of being kindergarten ready, while students from low income backgrounds with one year or two years of PreK have a 35% or a 55% probability of being kindergarten ready, respectively. This suggests our low income children would experience the greatest gains with two years of PreK.

This relationship is also present for more affluent students, although it is not as pronounced. More affluent students who don't attend PreK or attend for only one year have a 58% probability of being kindergarten ready, while more affluent students with two years of PreK have a 70% probability of being kindergarten ready.

The tables below summarize the results of this analysis for the 2012-2013 and 2013-2014 KRS results.

#### Odds and Probabilities to be Kindergarten Ready- 2012-2013 KRS

FRL Eligible Students Only			Non-FRL Students			All Kindergartners Surveyed		
Pre K Years	Odds	Probability	Pre K Years	Odds	Probability	Pre K Years	Odds	Probability
0	0.89	47%	0	2.62	72%	0	1.67	62%
1	0.95	49%	1	2.4	71%	1	1.52	60%
2	1.4	58%	2	3.2	76%	2	2.16	68%

#### Odds and Probabilities to be Kindergarten Ready- 2013-2014 KRS

FRL Eligible Students Only			Non-FRL Students			All Kindergartners Surveyed		
Pre K Years	Odds	Probability	Pre K Years	Odds	Probability	Pre K Years	Odds	Probability
0	0.44	30%	0	1.37	58%	0	0.92	48%
1	0.53	35%	1	1.37	58%	1	1.001	52%
2	1.23	55%	2	2.38	70%	2	1.6	61%

While the findings vary from these two data sets, what is consistent across the data is the finding that all children benefit more from two years of PreK, and the effect is most pronounced for children who live in poverty.

Though we were pleased to see these results, we did note that although our children's progress was strong compared to a national sample, the effects we found were not as pronounced as the effects of some of the programs in the national research such as the studies from the Abbot School District and Boston Public School.

#### **Why aren't the impacts of PreK on Kindergarten Readiness in Vermont more pronounced?**

There are some possible explanations for why our KRS does not indicate the same effects of PreK as some well-known studies such as Abbott School District and the Boston Public School (BPS) PreK program. These include:

- Characteristics of the Abbott and Boston PreK programs:
  - Both are full-day, full week programs (Vermont's PreK is only 6-10 hours per week)
  - All PreK classroom teachers had the minimum of a BA in early childhood education and many in BPS had master's degrees (Vermont only requires that one person in a community based center program needs to have an educator license in ECE and only 3 hours of supervision in a family-based child care program)
  - A research-based curriculum was used in all classrooms (Vermont law only states that the program must address the Vermont Early Learning Standards, there's no mention of using research-based curriculum)
  - Teachers received coaching to support their use of best instructional practices (VT does not requiring coaching)
- Characteristics of the assessment used to measure Kindergarten Readiness
  - In many of these studies, children's knowledge and skills were assessed using assessments that have been validated and that were administered by trained and reliable assessors. In contrast, Vermont's KRS is administered by teachers who are not trained raters, so we have questions about the validity and reliability of these ratings. Strengthening these measures and providing training to teachers would make these measures more reliable.
- Characteristics of the non-PreK population of children
  - When the Perry Preschool and Abecedarian Projects were implemented, children had few early education opportunities; hence, comparisons between children attending Perry Preschool and children not participating in any early learning and development program provided a stark comparison, and results that could be attributed to the Perry Preschool.
  - In Vermont, children may be enrolled in a quality early learning and development program and NOT be included in the PreK population. There are even programs in which some children are counted as PreK by a school district while other children participating alongside in that same program are not counted as PreK because their home town may not be offering PreK.



## REFERENCES

Barnett, W.S. (2014 January 30). When it comes to preschool, modest results may be meaningful. [Web Log Post] Retrieved from <http://preschoolmatters.org/2014/01/30/when-it-comes-to-preschool-modest-results-may-be-meaningful/>

Weiland, C. & Yoshikawa, H. (2014). Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills. *Child Development* 84: 2112-2130.