

What Works Clearinghouse



Bright Beginnings

Program Description¹

Bright Beginnings is an early childhood curriculum, based in part on *High/Scope*[®] and *Creative Curriculum*[®], with an additional emphasis on literacy skills. The curriculum consists of nine thematic units designed to enhance children’s cognitive, social, emotional, and physical development, and each unit includes

concept maps, literacy lessons, center activities, and home activities. Special emphasis is placed on the development of early language and literacy skills, and parent involvement is a key component of the program.

Research²

No studies of *Bright Beginnings* meet What Works Clearinghouse (WWC) evidence standards, but one study meets WWC evidence standards with reservations. The one study included 198 students from 14 public preschool classrooms in Tennessee.³

print knowledge, phonological processing, and math. No studies that meet WWC evidence standards with or without reservations examined the effectiveness of *Bright Beginnings* in the early reading and writing or the cognition domains.

Based on this one study, the WWC considers the extent of evidence for *Bright Beginnings* to be small for oral language,

Effectiveness

Bright Beginnings was found to have potentially positive effects on print knowledge and no discernible effects on oral language, phonological processing, and math.

	Oral language	Print knowledge	Phonological processing	Early reading and writing	Cognition	Math
Rating of effectiveness	No discernible effects	Potentially positive effects	No discernible effects	na	na	No discernible effects
Improvement index ⁴	Average: +4 percentile points Range: +4 to +5 percentile points	Average: +12 percentile points Range: +7 to +15 percentile points	Average: -3 percentile points na	na na	na na	Average: +4 percentile points Range: -1 to +6 percentile points

na = not applicable

- The descriptive information for this program was obtained from publicly available sources: the program’s website (<http://www.cms.k12.nc.us/cmsdepartments/ci/pre-kservices/Pages/default.aspx>, downloaded August 2008) and the literature reviewed for this report. The WWC requests developers to review the program description sections for accuracy from their perspective. Further verification of the accuracy of the descriptive information for this program is beyond the scope of this review.
- The studies in this report were reviewed using WWC Evidence Standards, Version 1.0 (see the WWC Standards).
- The evidence presented in this report is based on available research. Findings and conclusions may change as new research becomes available.
- These numbers show the average and range of student-level improvement indices for all findings across the study (studies).

Absence of conflict of interest

The PCER Consortium (2008) study summarized in this intervention report had numerous contributors, including staff of Mathematica Policy Research, Inc. (MPR). Because the principal

investigator for the WWC review of Early Childhood Education is also a MPR staff member, the study was rated by Chesapeake Research Associates, who also prepared the intervention report.

Additional program information

Developer and contact

Developed by former superintendent of Charlotte-Mecklenburg Schools, Eric Smith, in conjunction with district staff and local businesses. *Bright Beginnings* Office: Family Application Center, 700 Marsh Road, Charlotte, NC 28209. Email: prek@cms.k12.nc.us. Web: <http://www.cms.k12.nc.us/cmsdepartments/ci/pre-k-services/Pages/default.aspx>. Telephone: (980) 343-3797.

Scope of use

Bright Beginnings was funded by the Charlotte-Mecklenburg district's Title I grant, and has been used primarily in the Charlotte-Mecklenburg school system, in five prekindergarten centers and 14 elementary schools. Recently, the program has been implemented in other districts as well.

Teaching

The *Bright Beginnings* program is based on the *High/Scope*[®] and *Creative Curriculum*[®] models, with an additional emphasis on the development of early literacy skills. The curriculum is designed to create a child-centered, literacy-focused program that is relevant to the developmental needs of young children

and addresses their cognitive, social, emotional, and physical development. *Bright Beginnings* consists of nine units: language and literacy, mathematics, social and personal development, healthful living, scientific thinking, social studies, creative arts, physical development, and technology. Active exploration and interaction with other students, adults, and materials are important components of the *Bright Beginnings* model. As children participate in a variety of *Bright Beginnings* activities, they are continually monitored by teachers to assess their progress. Another feature of the *Bright Beginnings* program is an effort to engage parents; they are required to sign a parent-school partnership agreement affirming their active participation in their children's education.

Cost

District cost estimates, based on use in the Charlotte-Mecklenburg school system, range from \$9.8 million for 1,672 *Bright Beginnings* students in the first cohort (1997–98) to \$16.7 million for 3,020 *Bright Beginnings* students in the sixth cohort (2002–03), resulting in a cost of approximately \$5,500 to \$5,800 per student.

Research

Five studies reviewed by the WWC investigated the effects of *Bright Beginnings*. One study (PCER Consortium, 2008) is a randomized controlled trial design that had non-random allocations after random assignment, but the analytic groups were shown to be equivalent, so the study meets WWC evidence standards with reservations. No studies are randomized controlled trials or quasi-experimental designs that meet WWC evidence standards. The remaining four studies do not meet either WWC evidence standards or eligibility screens.

Meets evidence standards with reservations

One study reviewed by the WWC (PCER Consortium, 2008) assessed the effectiveness of *Bright Beginnings* as part of the Preschool Curriculum Evaluation Research effort.⁵ The PCER Consortium (2008) randomly assigned 36 classrooms to three conditions (*Bright Beginnings*, *Creative Curriculum*[®], and control), randomly selecting 21 classrooms for the national evaluation. After the pilot year, 8 classrooms dropped out (2 *Bright Beginnings*, 3 *Creative Curriculum*[®], and 3 control) and were

5. The Preschool Curriculum Evaluation Research Consortium (2008) evaluated a total of 14 preschool curricula, including *Bright Beginnings*, in comparison to respective control conditions.

Research *(continued)*

replaced with classrooms from the original 36. For this study, 14 classrooms were used (including the original and replacement classrooms), and baseline equivalence on pretests was established for the *Bright Beginnings* and control children. Data were collected on 198 children (98 *Bright Beginnings* and 100 control). Just over half of the children (51%) were male, 82% were Caucasian, and 23% were reported to have a disability. Pretest data were collected in the fall and posttest data were collected in the spring of the preschool year. The study investigated effects on oral language, print knowledge, phonological processing, and math. The control condition varied across sites and included teacher-developed, nonspecific curricula with a focus on basic school readiness.

Effectiveness Findings

The WWC review of interventions for early childhood education addresses child outcomes in six domains: oral language, print knowledge, phonological processing, early reading and writing, cognition, and math. The study included in this report covers four domains: oral language, print knowledge, phonological processing, and math. The findings below present the authors' estimates and WWC-calculated estimates of the size and the statistical significance of the effects of *Bright Beginnings* on children.⁷

Oral Language. The PCER Consortium (2008) analyzed the effectiveness of *Bright Beginnings* on oral language using the Peabody Picture Vocabulary Test (PPVT-III) and the Test of Language Development (TOLD). The authors report, and the WWC

Extent of evidence

The WWC categorizes the extent of evidence in each domain as small or medium to large (see the WWC Procedures and Standards Handbook, Appendix G). The extent of evidence takes into account the number of studies and the total sample size across the studies that meet WWC evidence standards with or without reservations.⁶

The WWC considers the extent of evidence for *Bright Beginnings* to be small for oral language, print knowledge, phonological processing, and math. No studies that meet WWC evidence standards with or without reservations examined the effectiveness of *Bright Beginnings* in the early reading and writing or the cognition domains.

confirms, that differences between the *Bright Beginnings* and control groups are not statistically significant or substantively important on any of these measures. According to WWC criteria, this study shows no discernible effects on oral language.

Print Knowledge. The PCER Consortium (2008) analyzed the effectiveness of *Bright Beginnings* on the Test of Early Reading Ability (TERA-3), the Woodcock-Johnson III (WJ-III) Letter-Word Identification subtest, and the WJ-III Spelling subtest.⁸ The study authors report a statistically significant positive effect of *Bright Beginnings* on the TERA-3, but according to WWC calculations, after correcting for multiple comparisons, the effect was not statistically significant. The study authors report, and the WWC confirms, there was no statistically significant effect on the WJ-III

6. The extent of evidence categorization was developed to tell readers how much evidence was used to determine the intervention rating, focusing on the number and size of studies. Additional factors associated with a related concept—external validity, such as the students' demographics and the types of settings in which studies took place—are not taken into account for the categorization. Information about how the extent of evidence rating was determined for *Bright Beginnings* is in Appendix A6.
7. The level of statistical significance was reported by the study authors or, when necessary, calculated by the WWC to correct for clustering within classrooms or schools and for multiple comparisons. For an explanation, see the WWC Tutorial on Mismatch. For the formulas the WWC used to calculate the statistical significance, see WWC Procedures and Standards Handbook, Appendix C for clustering and WWC Procedures and Standards Handbook, Appendix D for multiple comparisons. No correction for clustering was needed for the study by the PCER Consortium (2008) because their analysis corrected for clustering by using hierarchical linear modeling (HLM). A correction for multiple comparisons was needed for the PCER Consortium (2008) study, so the significance levels in this report may differ from those reported in the original study.
8. By name, the TERA-3 sounds like it should be captured under the early reading and writing domain; however, the description of the measure identifies constructs that are pertinent to print knowledge, such as knowing the alphabet, understanding print conventions, and environmental print. More detailed explanations of the measures in each domain can be found in Appendices 2.1–2.4.

Effectiveness *(continued)*

Letter-Word Identification subtest or on the WJ-III Spelling subtest. Although the effects are not statistically significant, the PCER Consortium found, and the WWC confirmed, that the effects on the TERA-3 and on the WJ-III Letter-Word Identification subtest are large enough to be considered substantively important according to WWC criteria (that is, at least 0.25). According to WWC criteria, the study shows potentially positive effects on print knowledge.

Phonological Processing. The PCER Consortium (2008) analyzed the effectiveness of *Bright Beginnings* on phonological processing using the Preschool Comprehensive Test of Phonological and Print Processing. The authors report, and the WWC confirms, that differences between the *Bright Beginnings* and control groups are not statistically significant or substantively important on this measure. According to WWC criteria, this study shows no discernible effects on phonological processing.

Math. The PCER Consortium (2008) analyzed the effectiveness of *Bright Beginnings* on math using the WJ-III Applied

Problems subtest, the Composite Score from the Child Math Assessment-Abbreviated, and Shape Composition. The authors report, and the WWC confirms, that differences between the *Bright Beginnings* and control groups are not statistically significant or substantively important on any of these measures. According to WWC criteria, this study shows no discernible effects on math.

Rating of effectiveness

The WWC rates the effects of an intervention in a given outcome domain as positive, potentially positive, mixed, no discernible effects, potentially negative, or negative. The rating of effectiveness takes into account four factors: the quality of the research design, the statistical significance of the findings, the size of the difference between participants in the intervention and the comparison conditions, and the consistency in findings across studies (see the WWC Procedures and Standards Handbook, Appendix E).

The WWC found *Bright Beginnings* to have potentially positive effects on print knowledge and no discernible effects on oral language, phonological processing, and math

Improvement index

The WWC computes an improvement index for each individual finding. In addition, within each outcome domain, the WWC computes an average improvement index for each study and an average improvement index across studies (see WWC Procedures and Standards Handbook, Appendix F). The improvement index represents the difference between the percentile rank of the average student in the intervention condition and the percentile rank of the average student in the comparison condition. Unlike the rating of effectiveness, the improvement index is entirely based on the size of the effect, regardless of the statistical significance of the effect, the study design, or the analysis. The improvement index can take on values between -50 and +50, with positive numbers denoting favorable results for the intervention group.

Based on one study (PCER Consortium, 2008), the average improvement index of *Bright Beginnings* on two measures of oral language is +4 percentile points with a range from +4 to +5

percentile points across findings. For print knowledge, the average improvement index on three measures is +12 percentile points with a range from +7 to +15 percentile points across findings. For phonological processing, the improvement index on one outcome measure is -3 percentile points. For math, the average improvement index on three measures is +4 percentile points with a range from -1 to +6 percentile points.

Summary

The WWC reviewed five studies of *Bright Beginnings*. One of these studies meets WWC evidence standards with reservations; the remaining four studies do not meet either WWC evidence standards or eligibility screens. Based on the one study, the WWC found potentially positive effects on print knowledge and no discernible effects on oral language, phonological processing, and math. The conclusions presented in this report may change as new research emerges.

References **Meets WWC evidence standards with reservations**

Preschool Curriculum Evaluation Research (PCER) Consortium. (2008). *Bright Beginnings and Creative Curriculum*: Vanderbilt University. In *Effects of preschool curriculum programs on school readiness* (pp. 41–54). Washington, DC: National Center for Education Research, Institute of Education Sciences, U.S. Department of Education.

Studies that fall outside the Early Childhood Education review protocol or do not meet WWC evidence standards

Bucci, A. F. (2000). Using Title I and local funds to build quality preschool programs in Charlotte-Mecklenburg: A “*Bright Beginning*”. In *Current state and local initiatives to support student learning: Early childhood programs and innovative programs to better address the needs of youth* (pp. 12–17). Selected presentations from an “Ensuring Student Success through Collaboration Network” conference (September 12–15, 1999), Louisville, KY. The study is ineligible for review because it does not use a comparison group.

Charlotte-Mecklenburg Schools. (2004). *Bright Beginnings program cost-benefit analysis project report*. The study is ineligible for review because it does not include an outcome within a domain specified in the protocol.

Charlotte-Mecklenburg Schools. *Comparison study of 1997–98 Bright Beginning participants percent at or above grade level*

on end-of-year assessment. Retrieved from <http://www.cms.k12.nc.us/cmsdepartments/ci/pre-k/services/Pages/ComparisonStudy.aspx>. The study is ineligible for review because it does not provide enough information about its design to assess whether it meets standards.

Smith, E. J., Pellin, B. J., & Agruso, S. A. (2003). *Bright Beginnings: An effective literacy-focused PreK program for educationally disadvantaged four-year-old children*. Arlington, VA: Educational Research Service. The study does not meet WWC evidence standards because the intervention and comparison groups are not shown to be equivalent at baseline.

Additional sources:

McClure, M. (2000). For K–12 success, North Carolina district starts early. *Curriculum Administrator*, 36(8), 24.

Neuman, S. B. (2009). Changing the odds through high-quality early care and education. In *Changing the odds for at risk children: Seven essential principles of educational programs that break the cycle of poverty* (pp. 97–126). Westport, CT: Praeger.

Smith, E. J. (2007). Weaving the gifted into the full fabric. *School Administrator*, 64(2), 10.

Tough, P. (2008). The conveyor belt. In *Whatever it takes: Geoffrey Canada’s quest to change Harlem and America* (pp. 188–212). New York: Houghton Mifflin Harcourt.