

Longitudinal Study

Waterford Kindergarten-Readiness Program

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In an independent evaluation of the effectiveness of Waterford Curriculum as a kindergarten-readiness program, results showed that the program significantly increased literacy skills—especially among at-risk populations. Data from the last five years shows that the gains have lasted beyond kindergarten.

Introduction

The report, prepared by the Utah State Office of Education, shows that students who participated in Waterford's kindergarten-readiness program continued to out perform academically through Grade 4.

The Program

The pilot project, established by the Utah State Legislature and currently in its sixth year, uses a home-based education technology approach to develop the school readiness skills of preschool children. In its sixth year of operation, 5,091 preschool children in the state of Utah were enrolled. Waterford provided an adaptive program of computer-based early literacy instruction to prepare them academically for kindergarten.

The software uses individualized lessons—digital books, songs, and other interactive activities—to deliver early literacy content. The adaptive software allows students to move at their own pace and receive additional instruction when needed.

Waterford Reading Level 1 teaches the following reading skills:

- Phonics: letters, letter sounds, sight words, and decoding
- Phonological Awareness: listening, rhyme, syllables, blending, phonemes
- Comprehension and Vocabulary: vocabulary knowledge and oral comprehension
- Language Concepts: print conventions, readiness skills, and language conventions

Children use the program for 15 minutes a day, 5 days a week. Families are provided with parental resources and technical support from Waterford customer service representatives.

The Study

The evaluation of the program's sixth year was conducted by an independent evaluator, ETI (Evaluation and Training Institute) using a pretest/posttest design with a statistically balanced one-to-one match of treatment and control students. The evaluation assessed the program's impact on developing children's early literacy skills in preschool (Hobbs, 2016).

Outcomes

Kindergarten Readiness

ETI measured the difference between the Waterford group and the control group, referred to as the effect size. Cohen (1988) categorizes effect sizes as small (0.2), medium (0.5), and large (0.8). Waterford students scored an effect size of 0.81 on total Brigance Composite and 0.95 on total Bader Composite.

Waterford students also scored significantly higher on eleven of the thirteen Brigance and Bader subtests on the posttest, showing strong empirical evidence that Waterford Curriculum was successful helping children develop key early literacy skills (Hobbs, 2016).

Longitudinal Effects

Longitudinal data was gathered and measured against state averages, to find out whether Waterford Curriculum has a lasting effect. The results show that Waterford students continually out performed state averages in DIBELS (*Figures 1-3*) and SAGE (*Figures 4-8*) testing in grades first through fourth. By using Waterford Curriculum to prepare for kindergarten, students continue to perform above average in later grades.

Success with All Students

These outcomes show significant benefits for at-risk students. Because these students and their families struggle with poverty and other issues, they often lack the resources to help their children develop the literacy skills needed to succeed in school.

In most cases, the difference between Waterford students and the state average scores is greater for English language learners (*Figure 5*), students from

low income households (*Figure 6*), minority students (*Figure 7*), and special education students (*Figure 8*). Using Waterford Curriculum as kindergarten-readiness has had the largest positive impact for at-risk students.

Conclusion

Waterford's kindergarten-readiness program brings lasting academic growth to students. A combination of Waterford products contributed to the program's success:

Home Access

Waterford Curriculum has traditionally been available in schools only, but with the Home Access feature, students can run sessions at home *and* school. The product used for the evaluation was used at home exclusively.

Professional Development

Waterford's Professional Development team provides enhanced support and encourages parent engagement, both key factors for success. Professional Development gives students and educators tools to meet usage goals, which is vital for seeing the kind of gains shown in this study.

Waterford Curriculum

Waterford Curriculum is available in several products. This study required students to use Waterford Reading with optional Waterford Math & Science sessions. Waterford Curriculum is also available in SmartStart PreK and Classroom Advantage.

References

Cohen, Jacob. *Statistical Power Analysis for the Behavioral Sciences* (2nd Edition). Abingdon: Routledge, 1988.

Hobbs, Jon. "UPSTART Program Evaluation." (2016).

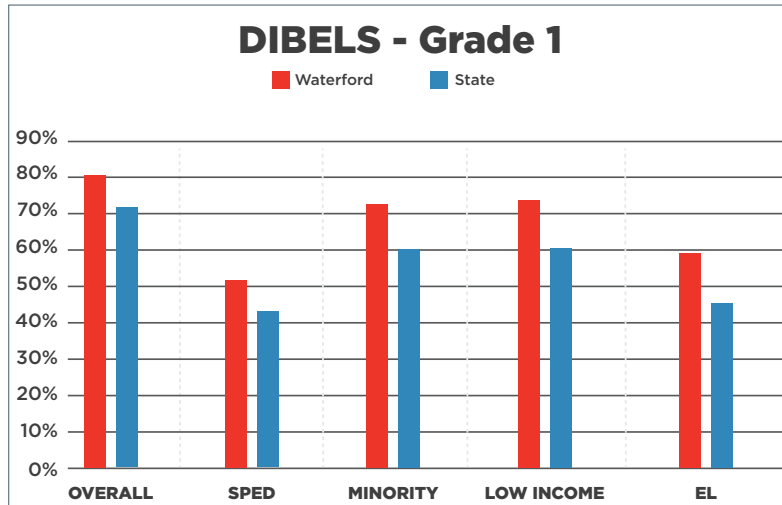


Figure 1

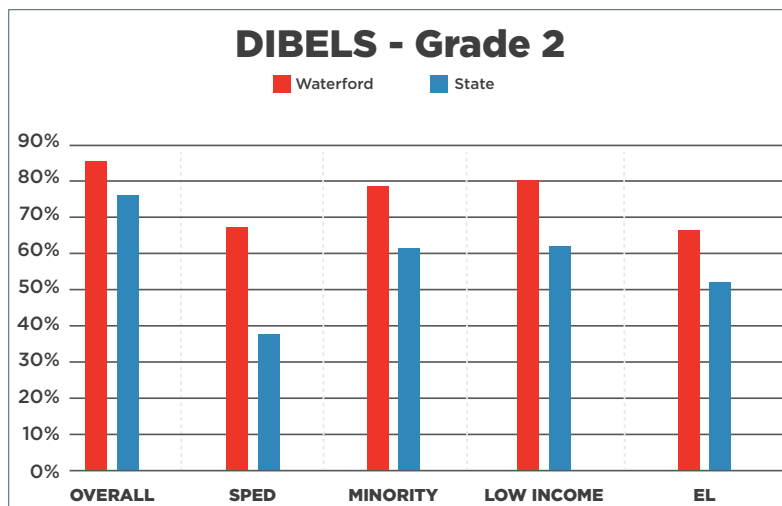


Figure 2

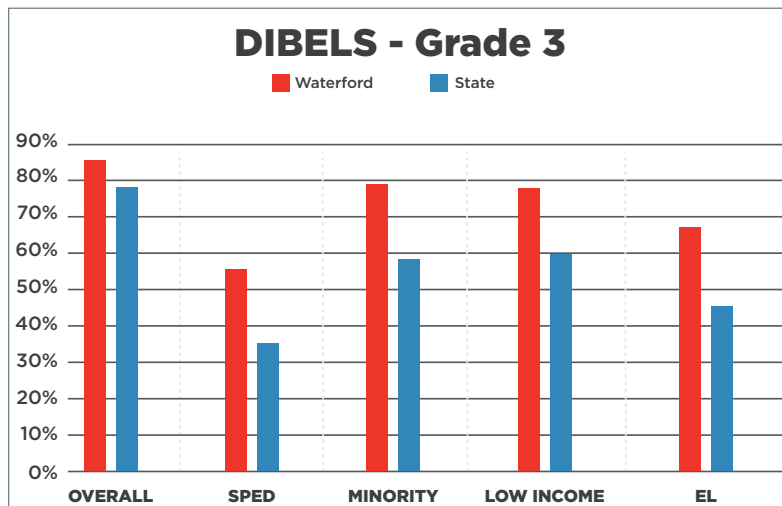


Figure 3

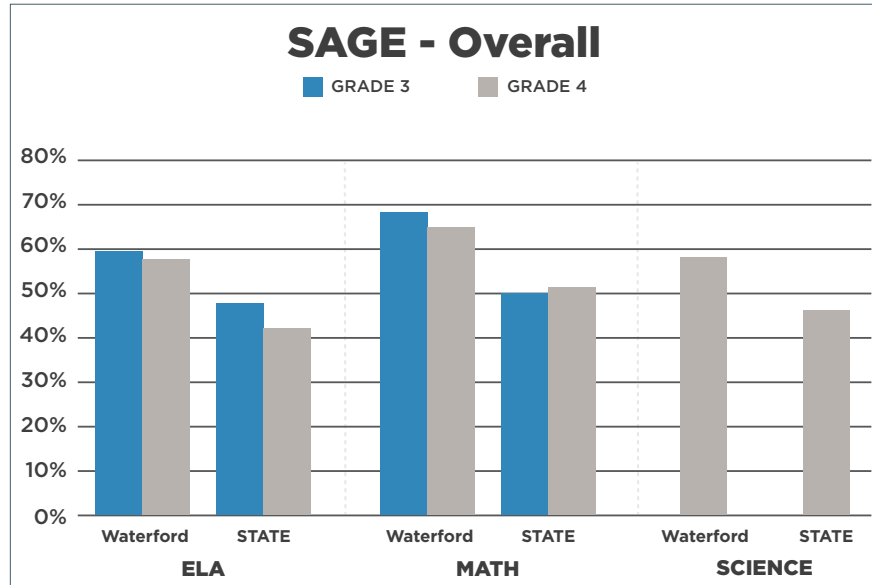


Figure 4

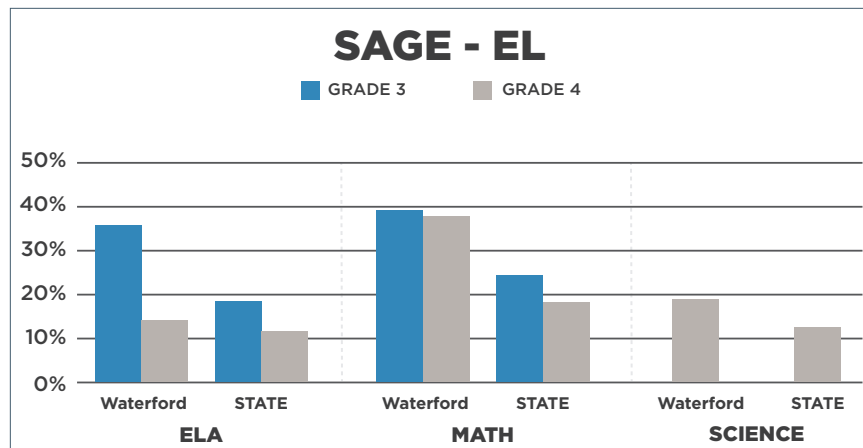


Figure 5

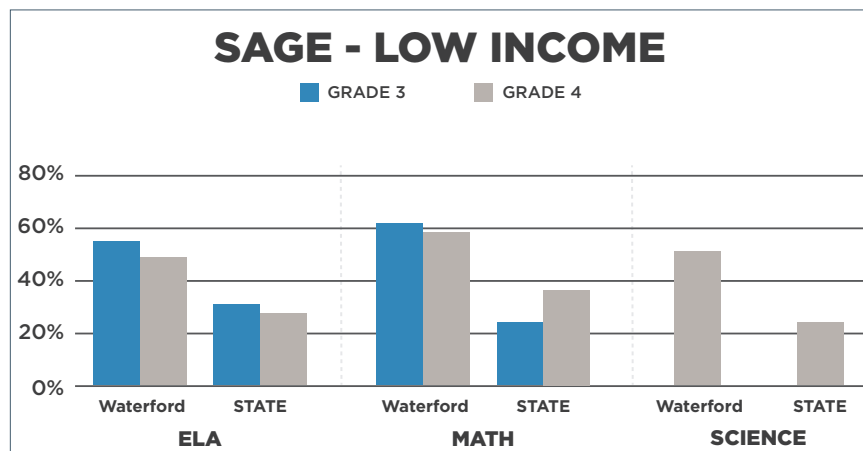


Figure 6

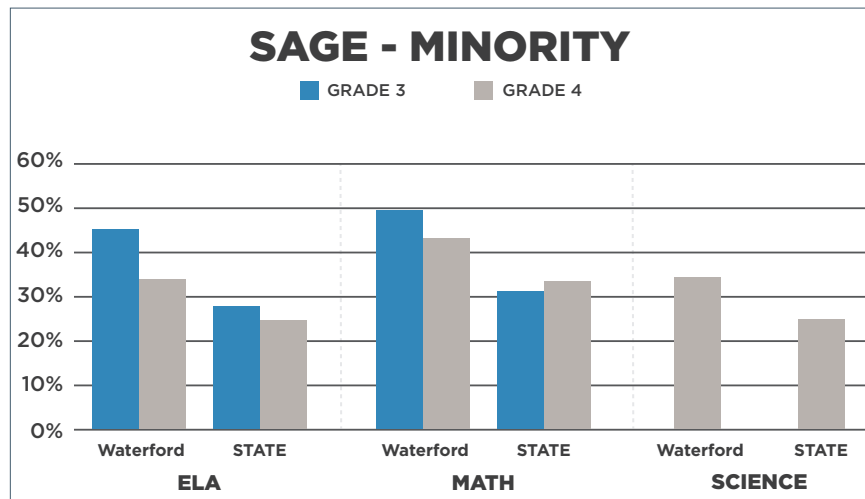


Figure 7

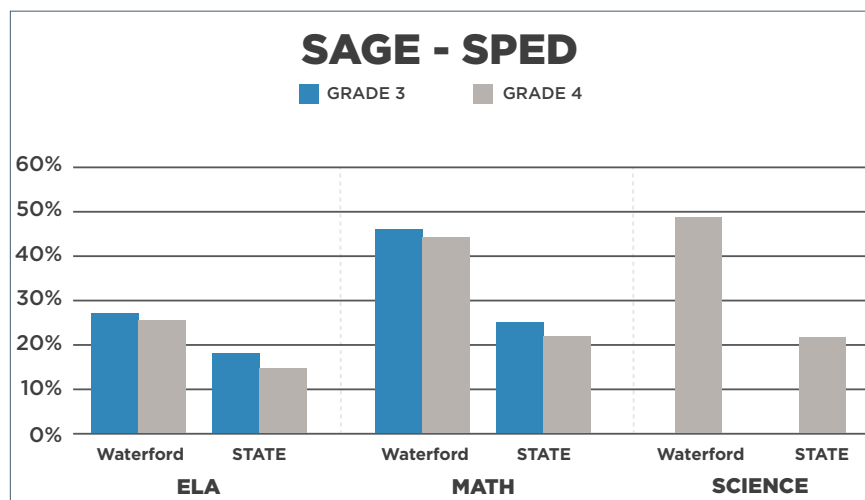


Figure 8