

A Study on the Effectiveness of Accelerate Education's English Language Arts Curriculum Grades 3, 4, and 5

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Summary

An independent review was conducted in the summer of 2022 to evaluate the effectiveness of the Accelerate Education English Language Arts curriculum for grades 3, 4, and 5 using data from 2020-2021 school year. A high performing Pennsylvania district that consistently exceeds the statewide PSSA averages was identified for the independent review, to assess whether students using Accelerate Education curriculum perform as well as students in the traditional classroom. The results of the study clearly show that Accelerate Education's curriculum provides effective and meaningful instruction at the elementary level, and students performed equally to those students in the traditional classroom.

Study Overview and Design

The purpose of this study was to examine the performance on the Pennsylvania System of School Assessment (PSSA) test of students using Accelerate Education curriculum to comparable students who did not use Accelerate Education curriculum. The English Language Arts PSSA evaluates students' proficiency in reading and writing through multiple-choice, evidence-based selected-response, and constructed-response questions. The PSSA 2020-2021 scaled scores were used for both groups for grades 3, 4, and 5 in English Language Arts. The study intentionally identified a traditionally high performing district so the performance on the PSSA of the control group was high.

The design of this study included identifying students in the treatment and control group in the same high performing, mid-sized, suburban school district in Pennsylvania. The treatment group included 3rd, 4th and 5th graders who used Accelerate Education curriculum in a distance learning setting for the 2020-2021 school year. The control group included comparable students who were in the traditional classroom setting and did not use Accelerate Education curriculum. All students took the PSSA in the spring of 2021. The following is a presentation of the results of these comparisons.

The research question investigated was: is there a statistically significant difference between the performance of students using Accelerate Education and non-Accelerate Education curriculum on the PSSA scaled scores in English Language Arts?

Grades 3 and 4 ELA comparison

The sample sizes for both groups of students for each of grades 3 and 4 are shown in Table 1.

Table 1.

Curriculum used	Grade 3	Grade 4
Accelerate Education	17	26
Non-Accelerate Education	260	244

To equalize the data, grade 3 and 4 students were combined in the Accelerate Education data and compared to the same sample size of a randomized selection of the non-Accelerate Education grade 3 and 4 data. More specifically, the non-Accelerate Education sample, used in this analysis, was created by combining a randomized selection of student performance data from each grade (17 from grade 3 and

26 from grade 4). This produced two samples, Accelerate Education and non-Accelerate Education data, that were not only equal but also met the required assumptions for an Analysis of Variance (ANOVA) test, which was subsequently run. The resulting ANOVA model is presented in Table 2 and compared the mean of Accelerate Education group against that of the non-Accelerate Education.

Table 2.

Comparison of grades 3 and 4 performance of students using Accelerate Education curriculum and students using non-Accelerate Education curriculum.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13139.174	1	13139.174	1.726	.193
Within Groups	639452.698	84	7612.532		
Total	652591.872	85			

The results indicated there was no statistically significant difference between the means of the two groups ($F(1,84) = 1.726$, $p = .193$). Therefore, the mean performance of grades 3 and 4 ELA students using the Accelerate Education curriculum was not statistically significantly different from the mean performance of students not using Accelerate Education curriculum. Therefore, we conclude with certainty, that students in grades 3 and 4 using Accelerate Education curriculum during the 2020-2021 school year performed as well as students not using Accelerate Education curriculum on the 2021 PSSA test.

Grade 5 ELA comparison

The sample sizes for both groups are shown in Table 3.

Table 3.

Curriculum used	Grade 5
Accelerate Education	42
Non-Accelerate Education	257

To equalize the data, a randomized sample of 42 students were selected from the non-Accelerate Education grade 5 English Language Arts data. The means of each group were compared using an ANOVA test to address the research question.

Table 4.

Comparison of grade 5 performance of students using Accelerate Education curriculum and students using non-Accelerate Education curriculum.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1794.446	1	1794.446	.250	.619
Within Groups	388218.393	54	7189.229		
Total	390012.839	55			

The result indicated no statistically significant difference between the two groups ($F(1,54) = .250$, $p = .619$). The mean performance of grade 5 students using the Accelerate Education curriculum was not statistically significantly different from the mean performance of students not using Accelerate Education curriculum.

Therefore, we conclude with certainty, that students in grade 5 using Accelerate Education curriculum during the 2020-2021 school year performed equally to students not using Accelerate Education curriculum on the 2021 PSSA test.

Additionally, the average of scores of students using Accelerate Education exceeded the state averages:

- In 2021, 50% of Pennsylvania students statewide in grades 3 – 5 received a 'Proficient or Better' score on the PSSA English Language Arts exam.
- For the same period, 61% of Accelerate Education students in grades 3 – 5 received a 'Proficient or Better' score on the PSSA English Language Arts exam.

