

EVALUATION OF THE ONE WORLD CORNERSTONE IN DC PUBLIC SCHOOLS: IMPROVING THE RESEARCH AND WRITING SKILLS OF STUDENTS

Edward Comstock and Quentin Wodon

April 2016



Evaluation Partners



KEY MESSAGES:

- Cornerstones – an initiative of DC Public Schools - are high-quality, in-depth core curricular experiences that students engage in through units of study. This brief summarizes the results of an independent evaluation of the One World Cornerstone on argumentative writing.
- Student writing showed statistically significant improvement after the program, especially for the students who initially fared the worst. Teacher and student perceptions are also favorable.

Introduction

During the 2015-16 school year, One World Education, a nonprofit based in the District of Columbia (DC), worked with DC Public Schools (DCPS) as a partner for the Cornerstone initiative. Cornerstones are high-quality, in-depth core curricular experiences that students engage in through DCPS units of study. Cornerstones aim to provide rigorous content to students, improved professional development for teachers, and continuity and consistency across grades and subjects. Some 5,200 students in 15 DC Public Schools in grades 10 and 12 participated in the One World Education argumentative writing program, which is referred to in DCPS as One World Cornerstone.

This brief summarizes results from an independent evaluation of the One World Cornerstone. The evaluation suggests that the program led to a positive and statistically significant improvement in the ability of students to write argumentative essays. The gains were larger for students who had weaker writing skills before the start of the program. The value of the program appears to be confirmed by perceptions data from teachers and students who participated in the program.

Box 1: District of Columbia Education Series Primer

Why a series of briefs on innovations in education in the District of Columbia? While much of the work of the Education Practice at the World Bank focuses on low and middle income countries, insights from innovations in OECD countries can also be highly valuable when thinking about education policy. This series focuses on innovative programs in Washington, DC.

What are the topics discussed in the series? The series looks at a number of innovative programs related among others to the curriculum, student learning, tutoring, and skills for the labor market. Private provision through charter schools is also discussed. Many of the programs have received support from the World Bank Community Connections or individual Bank staff.

What are the questions asked in this note? The question is: What is the impact of the One World Cornerstone Program on argumentative writing skills for public school students? (Another brief in the series focuses on the program in charter schools).

How is the question answered? Scoring of writing assignment before and after the implementation of the program for a sample of students is used to measure gains in writing skills associated with the program. The analysis is complemented by perceptions data from a sample of participating teachers and students.

The One World Cornerstone Program aims to improve research, writing, and presentation skills for middle and high school students in DC public schools.

One World Education is a nonprofit organization whose mission is to improve research, writing, and presentation skills for middle and high school students. Based on a rigorous curriculum, units of study leverage student ideas, perspectives and solutions about self-chosen topics to engage learners and advance research, writing, and presentation skills critical for college and career success.

The One World Cornerstone program took about four weeks to complete. It was implemented in the fall of 2015. The program is aligned to Common Core State Standards adapted to each grade level. All DCPS high school students in grades 10 and 12 participated in the program in 2015-16. The program had three main components:

- *Curriculum*: Each middle and high school grade level benefits from a unit of 10 lesson plans that teach students key elements of strong research, writing, and presentation. The program builds its curriculum around past students' writing, allowing current students to engage in peer learning that fosters greater engagement and motivates participants to develop their own argument about an issue that matters to them.
- *Professional Development (PD)*: To ensure effective training, eight hours of district-wide PD and more than 100 hours of training for individual teachers/schools was provided. The program also includes training for one teacher from each school to lead PD sessions for colleagues, ensuring that program expertise is always in the school.
- *One World Student Journals*: Each student receives a journal to guide them through every step of the unit (see Box 2). The workspace allows students to demonstrate their skills through exercises and assessments for reading comprehension, research, writing, and presentation. Each exercise leads students to their final project – an Argumentative Reflection.

Additional resources are made available to students and two events are organized to showcase their work.

- *Research and writing resources*: A Research Portal and Student Writing Library is provided on the One World Education website. The portal includes a database of vetted sources where students can generate evidence for their arguments. The Student Writing Library is a collection of writing by students who have completed the program. It provides models of exemplary grade-level writing and creates a forum for peer-to-peer learning.
- *Events*: A College and Career Senior Challenge enables seniors nominated by their teacher to present their essay to a panel of judges made up

of city, business, and government leaders. Seniors at the Challenge compete for college scholarships. To prepare them for the event, students engage in a six-week after-school program led by One World staff and DCPS teachers. In addition, the One World Celebration is an annual event recognizing each year's Student Ambassadors. These students, also nominated by their teachers, get their work published in the Student Writing Library on the One World Education website. The idea is to showcase essays that can provide inspiration to other students of similar age and background. The Senior Challenge and Celebration also provide the community with a rare glimpse of the teaching and learning that takes place in school.

Apart from core resources – curriculum, professional development for teachers, and student journals, other resources are made available to students and teachers, including a research portal and a student writing library.

Box 2: The Argumentative Program Has Four Stages: Reading Comprehension, Research, Writing, Presentation

The program consists of four stages. The first stage is *reading comprehension*. Students learn the vocabulary of argumentative writing and its importance in college and career success. They complete a close read of exemplary samples of argumentative writing by former One World Program participants and choose their own essay topic. The second stage is *research*. Students learn to create an in-depth research plan, conduct research, and analyze research. The One World Research Portal offers a range of resources at varying reading levels for each One World Unit. The third stage is *writing*. Students review the Argumentative Reflection rubric before transferring their research into an outline and an Argumentative Reflection draft. A series of peer-to-peer and teacher feedback exercises guide students as they write a final Argumentative Reflection. The last stage is *presentation*. Throughout the program, students practice public speaking in preparation for a formal presentation about an issue that matters to them. Presentations can be held in small peer groups, whole classes, or in a school assembly.

Writing samples from hundreds of DCPS high school students have been collected for an independent evaluation of the impact of the One World Program.

Data for the evaluation were collected by teachers from students participating in the program. In public schools, the evaluation focused on grades 10 and 12. Participation in the evaluation was voluntary on the part of teachers collecting essays by students. The evaluation is therefore not based on a randomized controlled trial and caution is needed when comparing results across schools, grade levels, or school types (writing samples were also collected from students in charter schools). It could also be that some of the better performing teachers chose to participate in the evaluation, which could lead measured

impacts to be higher than those that would apply to the student population as a whole. Still, the sample for the evaluation appears well balanced. Of 18 DCPS high schools/facilities, 15 participated in the program, and of those 9 are represented in the evaluation sample.

With 9 of 15 participating schools included in the evaluation, the sample appears to be well balanced.

Table 1: Participating Schools and Evaluation Sample

Participating high schools	Enrollment (4 grades)	Grades in evaluation	Sample size
Anacostia	661	-	-
Ballou	755	10, 12	60
Banneker	449	10	45
Cardozo	781	12	34
Bell/Columbia Heights	1,384	10, 12	52
Coolidge	395	-	-
Dunbar	653	12	43
Eastern	1,025	12	46
HD Woodson	639	10, 12	24
Luke C. Moore	350	-	-
McKinley Technology	645	10	39
Phelps Architecture	323	-	-
Roosevelt	476	12	21
Washington Metropolitan	244	-	-
Woodrow Wilson	1,788	-	-
Total	10,568	-	364

Source: Authors.

For each student in the evaluation sample, two essays were scored – one written before the program, and one after. American University writing instructors from the College Writing Program in the Department of Literature scored essays on a scale from 12 to 20, with 12 indicating the lowest performance, and 20 the highest. Scores were provided for four Common Core State Standards for argumentative writing: introduce a claim (1.A), supply evidence for claims and counterclaims (1.B), create cohesion between claims and reasons (1.C), and provide a concluding statement (1.E). In addition, an overall score is computed (average of the four scores).

The evaluation suggests gains in the quality of the students’ writing after the program; students initially performing less well had the largest gains.

Table 2 presents average student scores for grades 10 and 12 separately, and for all students taken together. The last column in the table tests whether the gains in score are statistically different from zero at the five percent level of confidence. All gains are indeed statistically significant. Overall, students in grade 10 experienced higher gains than students in grade 12, possibly because some of the students in grade 12 had already participated in a similar assignment two years earlier. The average gain for students in both grades is at about one point on a scale from 12 to 20.

Students in grade 10 experienced larger gains than students in grade 12. The average gain for all students was one point on a scale from 12 to 20, but gains were larger for initially weaker students. About seven in ten students improved their average score after the program.

Table 2: Student Scores Before and After the Program

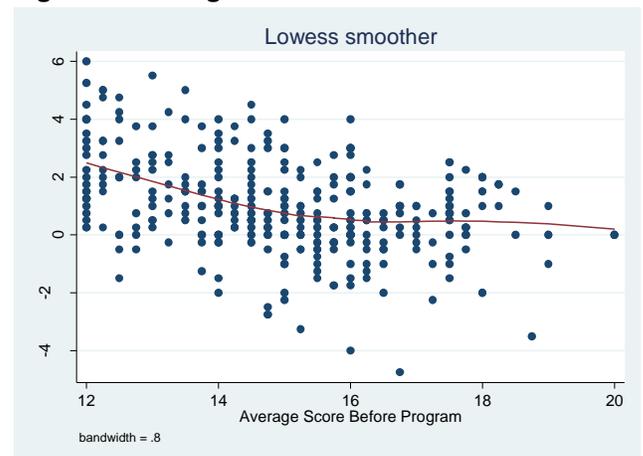
	Pre test	Post test	Diff.	Stat. sign.
Grade 10 (141 observations)				
Introduce claim	15.1	16.6	1.50	Yes
Supply evidence	15.1	16.5	1.38	Yes
Create cohesion	15.3	16.4	1.06	Yes
Provide concluding statement	14.6	15.9	1.35	Yes
Average score	15.0	16.3	1.29	Yes
Grade 12 (223 observations)				
Introduce claim	15.2	15.9	0.77	Yes
Supply evidence	15.2	15.8	0.66	Yes
Create cohesion	15.0	15.8	0.81	Yes
Provide concluding statement	14.7	15.6	0.82	Yes
Average score	15.0	15.8	0.76	Yes
Both Grades (364 observations)				
Introduce claim	15.1	16.2	1.05	Yes
Supply evidence	15.1	16.1	0.94	Yes
Create cohesion	15.1	16.0	0.91	Yes
Provide concluding statement	14.7	15.7	1.02	Yes
Average score	15.0	16.0	0.96	Yes

Source: Authors.

Note: Statistical significance estimated at the 5 percent level.

Importantly, students with weaker performance before the program recorded higher gains on average after the program. This is visualized in Figure 1 which displays the relationship between initial performance on the horizontal axis (average score) and gains in performance on the vertical axis. The trend line through the scatter plot shows how gains tend to be higher for weaker students, starting at more than two points for the students with the lowest average score before the start of the program.

Figure 1: Average Gain versus Initial Performance



Source: Authors.

Table 3 provides data on the share of students that improved their writing. Seven in ten students improved their average score, one in ten saw no change in score, and two in ten saw a decline in score. The fact that some students see a decline in their score is not surprising. First, student performance on writing assignments may vary from one day to the next. Second, there is some inherent level of subjectivity in scoring that can lead to (apparent) losses in performance. As shown in Figure 1, losses in score tend to be more frequent among students who performed better on the initial writing assignment.

Table 3: Students Improving their Average Score

	Gain (%)	No change (%)	Loss (%)
Grade 10	73.0	13.5	13.5
Grade 12	69.5	10.0	21.5
Both Grades	70.9	10.7	18.4

Source: Authors.

Teacher and student perceptions data also suggest that the program is improving students’ writing skills.

Perceptions from teachers were gathered through a web questionnaire sent to all teachers who participated in the program. Responses were anonymous to avoid bias.

Table 4: Teacher Perceptions– Share Agreeing (%)

	Strongly agree	Agree	Dis-agree	NA
The One World Cornerstone professional development sessions were a valuable use of my time	35.3	52.9	11.8	0.0
Facilitator(s) effectively prepared me to implement the Cornerstone	41.2	52.9	5.9	0.0
I had the knowledge/materials I need to implement the Cornerstone effectively	29.4	64.7	0.0	5.9
There was time to collaborate and adapt the Cornerstone to meet the needs of my students	23.5	52.9	23.5	0.0
This Cornerstone brings both rigor and relevance to my students	29.4	64.7	5.9	0.0
Using the close read, my students’ reading comprehension skills improved through the Cornerstone	17.7	58.8	17.7	5.9
My students’ research skills improved through this Cornerstone	23.5	70.6	0.0	5.9
My students’ writing skills improved through this Cornerstone	29.4	58.8	5.9	5.9
My students’ presentation skills improved through this Cornerstone	29.4	41.2	17.7	11.8
My students were engaged in the learning process	35.3	64.7	0.0	0.0
One World Education offered or delivered support for me to successfully implement the Cornerstone	58.8	41.2	0.0	0.0
With the revisions based on teacher feedback, I would recommend this Cornerstone for next year	41.2	52.9	0.0	5.9
I would feel comfortable being evaluated for impact while implementing the One World Cornerstone	23.5	52.9	23.5	0.0

Source: Authors. Note: modalities are strongly agree; agree; disagree.

A total of 17 teachers responded to the survey. As shown in table 4, on all questions, feedback was favorable, even if some areas for improvements were identified, for example to enable teachers to collaborate and adapt the Cornerstone to meet the needs of their students.

Perceptions data from teachers gathered through an anonymous web questionnaire suggest strong support for the program. Data from focus groups among participating students also suggest that the program is beneficial.

Perceptions data were also obtained through two focus groups from students nominated by teachers to become Student Ambassadors for the program. These students participate in a follow up program to improve their essay for publication in the Student Writing Library. While these students may not be representative of the overall student body, the focus groups suggested that most students found the program beneficial. The students appreciated especially the fact that they could work on a topic of their choice for the essay, and that they had to take steps to conduct their own research. For many students, this was also the first assignment that they had to complete in which they were required not only to provide an argument, but also to discuss counter-arguments to their own claims.

Conclusion

This brief has provided an evaluation of the One World Cornerstone implemented in 2015-16 in 15 DC public schools. While the evaluation is not based on a randomized controlled trial, it is based on data collected from nine schools and 364 students. Scoring of the student’s argumentative writing skills before and after the program suggest statistically significant gains in writing skills after the program. Perceptions data from teachers gathered through an anonymous web questionnaire suggest strong support for the program. Data from focus groups among participating students also suggest that the program is beneficial.

Reference: Comstock, E., and Q. Wodon, 2016, *Improving Student Writing in the District of Columbia: Evaluation of the One World Education Program*, Washington, DC: The World Bank.

Detailed results from the evaluation are at www.oneworldeducation.org and www.rotarianeconomist.com. The authors are with American University and the World Bank. This series of briefs was launched as a collaborative effort between the Education Practice at the World Bank, the Community Outreach Program at the World Bank, and the Rotary Club of Capitol Hill. Please contact Quentin Wodon at qwodon@worldbank.org for information. The brief series is part of the SABER Equity and Inclusion program that benefitted from the support of the Global Partnership for Education. The opinions expressed in this brief are those of the authors only. They may not represent the views of the World Bank, its Executive Directors, or the countries they represent, nor those of DC public schools or other partners in this evaluation.