Learning, Pilots

Elizabeth Zachry Rutschow

Final Report

Elizabeth Zachry Rutschow Amanda Grossman Dan Cullinan

September 2014



GED 21st Century Learning Pathways Pilots

Final Report

Elizabeth Zachry Rutschow Amanda Grossman Dan Cullinan



SEPTEMBER 2014

Funding for this report was provided by the American Council on Education through a grant from the MetLife Foundation.

Dissemination of MDRC publications is supported by the following funders that help finance MDRC's public policy outreach and expanding efforts to communicate the results and implications of our work to policymakers, practitioners, and others: The Annie E. Casey Foundation, The Harry and Jeanette Weinberg Foundation, Inc., The Kresge Foundation, Laura and John Arnold Foundation, Sandler Foundation, and The Starr Foundation.

In addition, earnings from the MDRC Endowment help sustain our dissemination efforts. Contributors to the MDRC Endowment include Alcoa Foundation, The Ambrose Monell Foundation, Anheuser-Busch Foundation, Bristol-Myers Squibb Foundation, Charles Stewart Mott Foundation, Ford Foundation, The George Gund Foundation, The Grable Foundation, The Lizabeth and Frank Newman Charitable Foundation, The New York Times Company Foundation, Jan Nicholson, Paul H. O'Neill Charitable Foundation, John S. Reed, Sandler Foundation, and The Stupski Family Fund, as well as other individual contributors.

The findings and conclusions in this report do not necessarily represent the official positions or policies of the funders.

OVERVIEW

For the nearly 39 million U.S. adults who do not have a high school diploma, the General Educational Development (GED) programs and exam have served as the main avenue for improving individuals' skills and helping them earn a high school credential. However, few students who start these programs ever get this credential and even fewer advance to the postsecondary education and higher-level training programs that could increase their earning potential. In response to this challenge, the American Council on Education (ACE) partnered with Pearson Inc. to release a new more rigorous GED test in 2014 that assesses the crucial thinking, writing, and analytical skills considered essential for success in today's labor market. In addition, ACE partnered with the New York City Department of Education's District 79 (D79), the Office for Adult and Continuing Education (OACE), and MDRC to create the Learning Pathways Pilots, a project aimed at improving students' preparation for this new more rigorous exam.

The pilots focused on revising a K-12 writing curriculum (based on the Writers Express [WEX]) and an adult basic education math curriculum (based on Extending Mathematical Power [EMPower]) to align with the Common Core State Standards. The Common Core is a set of nationally recognized K-12 language arts and math competencies upon which the new GED exam was based. These curricula were then implemented in dozens of D79 and OACE classrooms. This report details the findings from MDRC's evaluation of the implementation of these curricula over the course of the 2011-2012 and 2012-2013 academic years.

Overall, the study found that the curricula were implemented broadly throughout both school districts and reached thousands of students. Administrators, teachers, and students saw value in the content of both WEX and EMPower, the curricula's connections with the Common Core, and their ability to prepare students for the 2014 GED exam. However, a number of challenges arose in implementing the curricula. These included the transient nature of the student population and turnover in district leadership and management, which ultimately led to students receiving relatively few lessons from these new curricular models. Student outcome trends indicated that students in WEX and EMPower classes as well as those in OACE's and D79's regular programs achieved greater mastery of their math and writing skills over time. WEX and EMPower students also had GED pass rates similar to those of the national GED population. However, the design of the study did not allow for a causal analysis of whether the WEX and EMPower programs or other factors contributed to students' skill development or pass rates.

While the Learning Pathways Pilots were successful in implementing more rigorous curricula in adult education classrooms, the experience also points to several ways that adult education practices might be modified to further facilitate new curricular reforms. These include the development of shorter lesson sequences that align with adult students' attendance patterns; providing additional out-of-classroom support to give absent students the opportunity to work on course materials; and increasing faculty participation in decision-making about curricula, which may foster instructors' ownership of reforms.

CONTENTS

OVERVIEW	iii
LIST OF EXHIBITS	vii
PREFACE	ix
ACKNOWLEDGMENTS	xi
Introduction	1
What Is Adult Education and the GED?	2
How Do WEX and EMPower Differ?	4
The D79 and OACE Contexts	6
Implementation Plan for WEX and EMPower in D79 and OACE	6
The Evaluation	9
Implementation Findings	9
Student Outcomes	15
Implications for Policy and Practice	16
REFERENCES	19

LIST OF EXHIBITS

TABLE

1	National Reporting System Adult Education Skill Level Classifications, Associated Grade Level, and Enrollment	3
2	Characteristics of District 79 GED Plus and OACE Programs, 2012-2013	8
3	Implementation of WEX and EMPower in D79 and OACE	10

FIGURE

1	Frequency Distribution of Students, by Length of Time in WEX/EMPower Program	13

BOX

1	A Sample WEX Lesson from Book 2 (Writing in Response to Fiction)	5
2	A Sample EMPower Lesson Using Benchmarks: A Look at One-Eighth	7
3	Student Reflections on WEX and EMPower	12

PREFACE

Our country's success in today's technologically advanced marketplace depends greatly on our education systems' ability to prepare individuals for the higher-level critical thinking skills required in new jobs. For the past several years, the school system has been focused on reforming instruction and content through the Common Core State Standards, a set of English-language arts and math competencies and procedures accepted by 45 states. Recent controversies about these standards notwithstanding, the Common Core has been highly influential in reshaping curricula and testing in many K-12 classrooms. Indeed, these standards have become so influential that they are also being used to revise educational practices outside the school system, as in the recent changes in the General Educational Development (GED) exam. In January 2014, the American Council on Education (ACE) and Pearson Inc. released a new, more rigorous exam aligned with the Common Core, designed to offer a better measure of students' college readiness. It requires that students employ high-level critical thinking skills, measured by both a traditional high school credential normed on graduating high school seniors and a college-readiness standard.

These changes in the GED exam, along with other high school credentialing exams, signal the need for a radical re-envisioning of the instruction provided in our country's federally funded adult education system. Traditionally operating on shoestring budgets with a part-time teaching force, adult education programs have rarely been able to offer instruction beyond traditional test prep. This report examines one promising reform, which sought to integrate Common Core-aligned curricula into adult education classes. Overall, the Learning Pathways Pilots that were evaluated showed many strengths, including engaging students in more rigorous reading, writing, and math practices and providing stronger professional development for adult education teachers. These curricula were implemented with thousands of students across the New York City Department of Education's District 79 (D79) and Office for Adult and Continuing Education (OACE) classrooms, an unprecedented move in adult education reform.

However, the experiences of the pilots also revealed challenges common to many adult education classrooms. For instance, the erratic nature of students' attendance meant that too few students received the revised curricula; to better serve this population, current practices would have to be modified. It is our hope that the incremental knowledge gained through interventions such as these can offer useful lessons about how to improve adult education classes to meet the demands of a changing labor market.

> Gordon L. Berlin President

ACKNOWLEDGMENTS

In the preparation of this literature review, we are grateful for the support of the MetLife Foundation and the American Council on Education, which provided funding to enable the development of this document. In addition, we greatly appreciate the contributions and insights provided by leaders from New York City's District 79 Alternative Schools and Programs (D79) and the Office for Adult and Continuing Education (OACE).

We are also thankful to the many individuals who read and reviewed this report. In particular, we are grateful to those who gave us excellent written and oral feedback, including Robert Ivry, Leigh Parise, John Hutchins, and Dan Bloom of MDRC; Kemp Battle and Robert Kanoy at ACE; Robert Zweig and Chad Ferguson at D79; and Rose Marie Mills and Lavern Nelson at OACE. Finally, we would like to thank the Publications staff at MDRC, including Carole Campbell, who edited the report, and Stephanie Cowell and Carolyn Thomas, who prepared it for publication.

The Authors

INTRODUCTION

pproximately 39 million U.S. adults, or nearly 18 percent of the U.S. adult population, do not have a high school diploma or its equivalent. Since the passage of the Economic Opportunity Act in 1964, the federally funded U.S. adult education system and General Educational Development (GED) programs have served as the main avenue for improving these individuals' skills and helping them earn a high school credential.² Few students who start these programs ever get this credential, however; even fewer advance to the postsecondary education and higher-level training programs that could increase their earning potential.³ Recently, the American Council on Education (ACE), the original creator of the GED exam, responded to this challenge by partnering with Pearson Inc. and releasing a new, more rigorous GED test that assesses the higher-level critical thinking, writing, and analytical skills considered essential for success in today's labor market. Aligned with the Common Core State Standards, a set of nationally recognized K-12 language arts and math competencies that have been adopted by 45 states, the test is aimed at providing a better measure of students' readiness for college-level work.⁵

The release of this new exam underscores the urgency of developing even stronger preparation programs to improve low-skilled adults' abilities. In response to this challenge, ACE partnered with MDRC, the New York City Department of Education's District 79-Alternative Schools and Programs (D79), and the Office for Adult and Continuing Education (OACE), with financial support from the MetLife Foundation, to create the Learning Pathways Pilots project. The goal of this project is to pilot and test accelerated learning approaches to improve students' GED credentialing and college enrollment rates.⁶ After much discussion, the decision was made to focus the pilots on the implementation of new writing curricula (based on The Writer's Express [WEX], a popular K-12 writing curriculum) and math curricula (based on Extending Mathematical Power [EMPower], an adult education-focused mathematics curriculum) in dozens of D79 and OACE classrooms. These curricula represented a promising revision of standard adult education and GED instruction, which has traditionally been highly idiosyncratic and often based on test preparation materials.⁷

This report details the findings from MDRC's evaluation of the implementation of these curricula within the D79 and OACE classes over the course of two years (2011-2012 and 2012-2013 academic years). The study was primarily qualitative in nature, focusing on the integration of these curricula into OACE and D79 classrooms and the responses of teachers, administrators, and students

- 1. This statistic is from 2010 U.S. Census, as reported in GED Testing Service (2012a). It refers to the percentage of the U.S. population above age 16 that lacked a high school credential and was not enrolled in any educational program at that time.
- 2. GED Testing Service (2012a); Tamassia, Lennon, Yamamoto, and Kirsch (2007).
- 3. GED Testing Service (2012a); Zhang, Guison-Dowdy, Patterson, and Song (2011); Tyler (2004).
- 4. GED Testing Service (2012b).
- 5. National Governors Association Center for Best Practices (2010).
- 6. Beginning in January 2014, New York State stopped using the GED and began using an alternative high school credential — the Test Assessing Secondary Completion (TASC) — to certify students' skills. However, during the time period of this study, New York was still using the GED credential; thus programs and outcomes referenced in this report refer to the GED credential.
- 7. Beder and Medina (2001).

to this work. In addition, MDRC collected administrative data on students' enrollment in WEX and EMPower courses, attendance, and assessment scores as measured on the Test for Adult Basic Education (TABE) and the GED exam. Overall, the study found that teachers and students found value in these curricula and felt that they helped better prepare students for the 2014 GED. However, the erratic nature of students' attendance complicated teachers' implementation of these curricula and, ultimately, most students ended up receiving a relatively small proportion of the overall lessons.

WHAT IS ADULT EDUCATION AND THE GED?

Enrolling more than 2 million students each year, federally funded adult education programs are the primary vehicle for helping individuals lacking a high school diploma improve their skills and earn a high school credential.8 Supported primarily by Workforce Investment Act (WIA) Title 2 funding, programs are divided into three courses of instruction, including adult basic education (ABE), for individuals with below ninth-grade skills; adult secondary education (ASE), for individuals with high school-level skills; and English literacy (EL), for adults who lack proficiency in English. 10

ABE and ASE, which are the primary focus of this report, are subdivided into six educationalfunctioning levels (see Table 1), ranging from beginning adult basic education literacy (for those with less than second-grade skills) to high adult secondary education (for those with eleventh- and twelfth-grade skills).¹¹ All programs are required to track their students' progress by providing regular updates to the National Reporting System of the U.S. Department of Education's Office of Career, Technical, and Adult Education (formerly known as the Office of Vocational and Adult Education). Students' educational progress is tracked for five key outcomes, including educational gain (defined as movement from one educational-functioning level to another), high school completion, entry into postsecondary education or training, entry into employment, and retention of employment. Educational gain is generally monitored through one of several standardized assessments, including the Test of Adult Basic Education (TABE) and the Comprehensive Adult Student Assessment System (CASAS). High school credentialing, postsecondary education, and labor market outcomes are monitored using a variety of methods, including student surveys, analysis of unemployment insurance (UI) wage records, or statewide longitudinal education data.

Operating independent of ABE and ASE programs, the 2014 GED is a seven-and-a-half-hour exam in four content areas, including Reasoning through Language Arts (RLA), Mathematical Reasoning, Science, and Social Studies. 12 The 2014 exam now requires students to be able to critically evaluate

- 8. U.S. Department of Education, Office of Vocational and Adult Education (2013a).
- 9. ASE generally includes programs that help students prepare for the General Educational Development (GED) diploma or adult diploma through a school system. U.S. Department of Education, Office of Vocational and Adult Education (2013a).
- 10. U.S. Department of Education, Office of Vocational and Adult Education, (2013a). This report focuses on students attending ABE and ASE programs.
- 11. Information in this paragraph comes from U.S. Department of Education, Office of Vocational and Adult Education (2013b).
- 12. Information in this paragraph comes from the following sources: GED Testing Service (2014b), "Program and Services." For section-specific standards, see GED Testing Service (2014c), "Reasoning Through Language Arts (RLA)"; GED Testing Service (2014a), "Mathematical Reasoning"; GED Testing Service (2014d), "Science"; and GED Testing Service (2014e), "Social Studies."

TABLE 1 National Reporting System Adult Education Skill Level Classifications, Associated Grade Level, and Enrollment

ADULT EDUCATION CLASSIFICATION	APPROXIMATE GRADE LEVEL	ENROLLMENT (2010-2011)	PERCENTAGE OF TOTAL
Adult basic education (ABE)	,	,	
Beginning adult basic education literacy	0-1.9	60,929	3.0
Beginning basic education	2-3.9	183,774	9.1
Low intermediate basic education	4-5.9	311,403	15.5
High intermediate basic education	6-8.9	370,059	18.4
Adult secondary education (ASE)	,	,	
Low adult secondary education	9-10.9	142,513	7.1
High adult secondary education	11-12	104,086	5.2
English literacy	,	,	
Beginning literacy	NA	148,866	7.4
Low beginning	NA	103,906	5.2
High beginning	NA	147,853	7.3
Low intermediate	NA	184,067	9.1
High intermediate	NA	141,627	7.0
Advanced	NA	113,080	5.6
TOTAL		2,012,163	100.0

SOURCES: U.S. Department of Education, Office of Vocational and Adult Education (2013a; 2013b).

complex, nonfiction texts; use technology to develop written analyses that employ evidence from literary or informational texts; undertake algebraic and quantitative problem solving; demonstrate procedural skill and fluency in a mathematical context; and demonstrate deeper conceptual knowledge as well as procedural skill and fluency in science and social studies. These represent a substantial increase in requirements from the previous 2002 version of the GED exam.¹³

Although adult education programs and the GED have been in operation for many years, both have faced difficulties in helping dropouts advance past a high school credential and into the workforce and postsecondary education. Adult education programs have traditionally operated on shoestring budgets, with the typical program surviving on an annual budget of less than \$200,000, which represents less than 10 percent of the resources spent on the average K-12 student.¹⁴ As a result, most

^{13.} American Council on Education (2011). A number of states have chosen to pursue alternatives to the GED exam since the announcement of ACE's partnership with Pearson. However, most of these alternative exams are expected to also align with the Common Core State Standards and thus provide a more rigorous test of students' skills than the 2002 version of the GED.

^{14.} U.S. Department of Education (2012); U.S. Department of Education, Office of Vocational and Adult Education (2005).

adult education programs employ part-time instructors who have little to no paid time for professional development.¹⁵ Additionally, those who do receive training typically receive fewer than 20 hours per year, with training taking place in off-site workshops rather than in more intensive, onsite formats.¹⁶ In addition, adult education programs tend to group students of various ability levels within one classroom and have relatively limited curricular resources, with instruction tending to center on commercially available GED or other test preparation materials.¹⁷ Finally, the adult education population tends to be highly transient, with many students dropping out or stopping out of programs within a few months of entry — leading many programs to operate on "open enrollment" systems, whereby students are enrolled in classes on a monthly, weekly, or even daily basis.¹⁸ Such challenges have traditionally made it difficult for instructors to implement sequential lesson plans that build on students' day-to-day learning.¹⁹

HOW DO WEX AND EMPOWER DIFFER?

Unlike typical test prep materials, WEX and EMPower are two curricula that focus on developing students' conceptual understanding of writing and math, while helping them apply their knowledge within more practical contexts. WEX, originally created as a K-12 writing curriculum, is aligned with important aspects of the Common Core, such as learning how to write over extended time frames, developing arguments to support claims, and strengthening students' writing through revision.²⁰ As a series of sequential lessons for third- through twelfth-grade students, WEX's instructional format focuses on strengthening specific writing skills, such as the use of expressive language, logical structure, and the citation of evidence from fiction and nonfiction texts using a seven-step routine, including: (1) targeted instruction; (2) skill drill or revision assignment; (3) verbal warm-up; (4) journal writing; (5) sharing; (6) closing; and (7) feedback from the instructor. In addition, the curriculum aims to improve students' writing stamina through daily writing routines, with instructors providing individualized feedback and students revising their work based on these comments.²¹ (See Box 1 for a typical WEX lesson.)

Developed by the adult education-focused company TERC, EMPower seeks to help students move beyond the typical focus on math procedures and gain a deeper understanding of the underlying math concepts. As with WEX, EMPower's focus on both mathematical practices as well as content aligns well with the Common Core's focus on students' deeper understanding of core math concepts as well as the ability to apply knowledge about these concepts to unfamiliar problems. With content spanning elementary-level skills (such as whole numbers, addition, and subtraction) through high

- 15. Chisman (2011); Smith et al. (2003); Sabitini et al. (2000).
- 16. Smith et al. (2003).
- 17. Beder and Medina (2001).
- 18. Comings, Parella, and Soricone (1999); Gopalakrishnan (2008).
- 19. Beder and Medina (2001).
- 20. Common Core State Standards Initiative (2012). Amplify Education Inc. (2014).
- 21. The three WEX books being piloted as part of the Learning Pathways Pilots map onto CCSS Writing Anchors 1, 2, 3, 4, 5 and 10; as well as Reading Anchors 1, 2, 3, 4, 5, 6, 8, 9, and 10. For more on curricula, see Amplify Education Inc. (2014).

BOX 1

A Sample WEX Lesson from Book 2 (Writing in Response to Fiction)

The focus of this lesson is to have students identify sensory details in order to describe the setting and context from a story. When class begins, the teacher introduces the story, "Rules of the Game," by Amy Tan and the learning objectives for the day, which are written on the board:

READING: Students will read story "Rules of the Game" by Amy Tan and identify sensory details that are used to describe the setting and context within a passage.

WRITING: Students will write about the sensory details a character notices in the setting to show how the character feels about the setting.

WRITING PROMPT: Use sensory details that describe the setting and the story to show Waverly's (the main character's) positive feelings about living in Chinatown.

One student is asked to read the story aloud, with the teacher asking him to pause periodically so that she can ask the class questions and ensure that they are comprehending what they are reading. In the middle of the story, the teacher stops the student and begins a warm-up exercise with the class. Together they fill in a five-columned chart, in which students identify sensory details that they experienced on the way to school (with one column for each sense: Hearing, Taste, Touch, Smell and Sight). Then, the teacher turns back to the story, instructing the class to use a highlighter to mark sensory details in the story while the student continues reading aloud. As the student is reading, the teacher continues to pepper the class with questions about sensory details in the story as well as the setting, bringing several different sentences to students' attention. In addition, the teacher asks the students to compare their own feelings about the story with the feelings of the narrator and how aspects of the story relate to their own lives.

After completing the story, the teacher introduces the writing activity and the writing prompt, explaining to the class they should write a short essay for approximately 10 minutes, with the expectation that they will share the essay with the class. She also reminds them about the rules for sharing: speak loudly and give only positive feedback. As the students write, the teacher circulates around, looking at students' writing and providing direction to students who are struggling. After about 10 minutes, the teacher calls on a student to share his writing. The teacher then instructs the student who has shared to call on another student to comment on their writing. While some students provide feedback easily to each other, not all students are comfortable with this exercise and a number of them struggle to formulate feedback. However, after a few students have spoken, the class appears to relax and share more openly. The teacher then closes the lesson by recapping their discussion on sensory details and setting.

SOURCES: EMPower (2014a); Curry, Schmitt, Steinback, and Merson (2013).

school math (such as algebra and geometry), instruction in EMPower classes is centered around four key processes, including: (1) getting started, where the instructor introduces the purpose of the lesson and the mathematical concept; (2) getting to work, which is centered on one or two activities that engage the learner in applying the concept with a partner or group; (3) accessible help, which provides supplemental written information within a student's textbook and which is intended to

advance students' understanding of the concept; and (4) practice pages, which give students opportunities to apply and extend their learning. A key goal of EMPower is for students to make sense of problems and persevere in solving them, to reason abstractly and quantitatively, and to learn how mathematics connects to real-life situations.²² (See Box 2 for a typical EMPower lesson.)

The Learning Pathways Pilots leadership team hoped that the use of WEX and EMPower within D79 and OACE classrooms would help strengthen students' writing, reading, and math skills and better prepare them for the Common Core-aligned 2014 GED.²³ More broadly, they anticipated that these curricula could "provide the foundation for the delivery of scalable accelerated learning components" that could "assist in closing the proficiency gap in candidates' skills and prepare them more effectively for success in college or in a career."24

THE D79 AND OACE CONTEXTS

D79 and OACE both operate adult education programs and services under the auspices of New York City's Department of Education, including ABE, ASE, and EL programs. However, the two programs serve different populations. New York's D79 targets students under 21 who have dropped out or moved out of traditional K-12 schools and offers a variety of education programs to older adolescents, young parents, and incarcerated youth throughout New York City.²⁵ In contrast, OACE is charged with serving the city's 21 and over population, with the large majority of students falling between the ages 25 and 59 years. (See Table 2.)

Thousands of students are served by both OACE and D79 across New York City's five boroughs (the Bronx, Brooklyn, Manhattan, Queens, and Staten Island). Both programs enroll primarily lowincome African-American and Latino populations and use open enrollment systems; these systems bring new students into classrooms on a monthly basis in OACE or a weekly-to-daily basis in D79. The instructional model also differs in the two programs. Many of D79's programs have operations similar to traditional high schools, with classes offered five days a week, with the five- to six-hour school day divided into one-hour subject-based periods. In contrast, OACE tends to function more like traditional adult education programs, with multilevel, part-time classes that run in three-hour blocks two or three days a week.

IMPLEMENTATION PLAN FOR WEX AND EMPOWER IN D79 AND OACE

The implementation of WEX and EMPower within D79 and OACE as part of the Learning Pathways Pilots project focused on adapting the WEX curriculum to alternative education settings, implementing EMPower as a more sequential lesson model, and more explicitly aligning both curricula

- 22. Information in this paragraph comes from EMPower (2014a and 2014b).
- 23. Even though WEX is a writing curriculum, lessons also require a substantial amount of reading. The Learning Pathways Pilots leadership hoped that students' reading skills would also improve.
- 24. American Council on Education (2010).
- 25. NYC Department of Education District 79 (2014).

BOX 2

A Sample EMPower Lesson Using Benchmarks: A Look at One-Eighth

The key objective of this lesson is to continue developing students' understanding of fractions while also introducing the new concept of one-eighth and one-sixteenth within the context of other, previously learned fractions. In the previous class,* the instructor discussed the objective of the lesson and provided a small lecture introducing the concept of one-eighth, one-sixteenth, and the halving of fractions. Students then practiced these concepts in small groups in the activity, Fractions of a Yard, where students divided out a yard into fractions. This small group activity was intended to allow students the ability to practice applying a new mathematical concept in a more real-world setting (in this case, measurement) and practice expressing their findings using mathematical symbols (in this case, fractions).

In this class period, the teacher moves on to the second "Getting to Work" activity exercise, Finding one-eighth on a number line. The instructor writes a number line from zero to one on the board, which is divided up into eight sections. In addition, the teacher writes a list of different fractions, such as 1/2, 1/4, 3/4, and 1/8, in a separate space on the board. Different students are then asked to come up to the board and physically demonstrate what $\frac{1}{2}$, $\frac{3}{8}$, $\frac{5}{8}$ and other fractions are by segmenting off parts of the number line (without using any mathematical symbols). After this activity, the teacher introduces additional practice to reinforce the lessons learned. Students are presented with a worksheet, which asks them to count out the spaces on the number line between zero and one and write these counts as different eighths of a fraction ($\frac{3}{8}$, $\frac{5}{8}$, etc.). In addition, students are asked to compare eighths with other fractions. The instructor asks the students to quietly work for five minutes on these problems while she walks around and helps individual students who are struggling. After this individualized practice, the teacher then concludes the class by having students work in small groups to create a number line with several fractions using the previous practice exercise as a guide.

SOURCES: EMPower (2014a); Curry, Schmitt, Steinback, and Merson (2013).

*Though the lesson was intended to be taught in one class period, most teachers using EMPower had difficulty fitting lessons into one class period. As such, this particular lesson was conducted over two class periods.

with the Common Core. The newly revised curricula were piloted among older adolescent and adult students with middle school-level skills (approximately fourth-grade through ninth-grade reading level), 26 as these students would be most likely to take the newly revised GED. The pilots centered instruction around a set of sequenced, multiweek lessons focused on building students' writing and math skills. Teachers were trained by WEX and EMPower staff during four daylong sessions throughout the year, as well as four coaching sessions interspersed throughout the school year. In

^{26.} Students in OACE and D79 are placed in classes based on their reading scores.

TABLE 2 Characteristics of District 79 GED Plus and OACE Programs, 2012-2013

CHARACTERISTIC	D79 GED PLUS	OACE
Number of schools/sites	65	175
Number of teachers ^a	218	460
Race/ethnicity (%)		
American Indian or Alaskan	1.2	0.5
Asian	7.6	6.3
Black or African-American	42.0	62.4
Hispanic or Latino	44.0	27.2
Native Hawaiian or Pacific Islander	0.8	0.0
White	4.2	3.6
Female (%)	43.7	60.0
Age (%)		
< 25	100.0	17.2
25-44	0.0	54.8
45-59	0.0	24.9
60 and over	0.0	3.1
Sample size	8,559	11,225

SOURCE: Data provided by D79 and OACE on universe of students.

NOTE: alncludes full-time and per-session teachers at OACE.

some programs, D79 and OACE tutors and coaches also provided additional support to teachers implementing the curricula.

WEX instructors were expected to teach approximately four to five 45-minute lessons a week and teach a total of 83 lessons over the course of the year. Lessons were divided among three textbooks (Book 1: Writing Personal Narratives; Book 2: Writing in Response to Fiction; Book 3: Informational and Expository Writing). The WEX lessons were aimed at students with a sixth- to ninth-grade reading level. In both OACE and D79, EMPower instructors were expected to teach one-hour lessons two or three times per week, for a total of 30 lessons during the year. EMPower lessons were based within three of EMPower's eight-book series (Everyday Number Sense: Mental Math and Visual Models; Using Benchmarks: Fractions, Decimals and Percents; Split It Up: More Fractions, Decimals and Percents). The lessons were aimed at students with fourth- to-seventh-grade math abilities. The lessons focused primarily on students' ability to estimate and do whole number math computations

in their heads (Mental Math) before moving on to proportions, fractions, and percentages.²⁷ Both WEX and EMPower developers also provided supplementary books that instructors could draw from if they completed the lesson cycle or wanted additional materials. Finally, though both WEX and EMPower were to be taught as a sequential set of lessons that built on students' learning from one class to the next, WEX and EMPower developers and OACE and D79 administrators hoped that the repetition of skill development inherent in both curricula would ease the transition of newly entering and transient students into ongoing classes.

THE EVALUATION

MDRC's evaluation of the Learning Pathways Pilots project included visits to D79 and OACE programs implementing the WEX and EMPower curricula throughout New York City over the course of two academic years (2011-2012 and 2012-2013). During these visits, MDRC interviewed program administrators and instructors, conducted focus groups with students, and observed WEX and EMPower classrooms. MDRC also interviewed the WEX and EMPower curricula developers and trainers and observed WEX and EMPower trainings for D79 and OACE staff. Over the course of the two-year implementation period, more than 40 percent of the teachers trained in WEX and EMPower were interviewed and 24 WEX and EMPower courses were observed.

In addition, MDRC collected administrative data on students' entering-skill levels (as measured by the TABE), attendance (as measured by program attendance and the submissions of teachers' instructional logs), writing progress (as measured by writing prompts similar to GED Testing Service's Official Practice Test), and GED achievement. The data were used to assess students' participation in the WEX and EMPower pilots as well as to observe trends in students' achievement.

IMPLEMENTATION FINDINGS

Based on site visits, focus groups, and interviews with administrators, instructors, and students, MDRC found a number of successes with the introduction of the two curricula into D79 and OACE classrooms. The implementation was broad and provided abundant training. Administrators and teachers saw value in the content of both WEX and EMPower. Across both programs, the majority of teachers were satisfied with the curricula, the curricula's connections with the Common Core, and their ability to prepare students for the GED exam. However, a number of challenges arose in implementing the curricula, including the transient nature of the student population and turnover in district leadership and management, which ultimately led to students receiving relatively few lessons from these new curricular models.

^{27.} Note that although curricular materials were aimed at a particular math level, students in OACE and D79 are not placed into their math classes based on their math-skills level. Instead, students with various levels of math ability are placed into one classroom.

TABLE 3 Implementation of WEX and EMPower in D79 and OACE

CHARACTERISTICS OF CURRICULA IMPLEMENTED	D79 GED PLUS	OACE
WEX		
Total number of teachers trained	40	11
Total number of students in pilot	1,188	635
Average number of weeks students spent in WEX program ^a	6.3	7.5
Average number of days per week students attended classes ^b	1.2	2.2
EMPOWER		
Total number of teachers trained	15	17
Total number of students in pilot	NA	1,310
Average number of weeks students spent in EMPower program ^a	NA	8.9
Average number of days per week students attended classes ^b	NA	2.3

SOURCE: Data provided by D79 and OACE on WEX and EMPower students.

NOTES: The length of time in the program is the duration of time at D79 or OACE in the WEX or EMPower classes.

Implementation Successes

- · A large number of D79 and OACE teachers received intensive, on-site training in the WEX and EMPower curricula. A total of 83 teachers were trained in the WEX and EMPower curricula across D79 and OACE. (See Table 3.) Qualitative data suggest that most teachers received a minimum of 28 hours of training in WEX or EMPower over the course of the year as well as an additional three to five hours of coaching. This represents a substantial investment in professional development when compared with the sporadic training traditionally offered adult education practitioners. 28
- EMPower trainings demonstrated the curricula's explicit connection to the Common Core or 2014 GED; these connections were less clear in WEX trainings, but improved over time. EMPower instructors felt the curriculum's connection to the Common Core was presented clearly in the professional development sessions and training. This helped build instructors' buy-in to the curricula at OACE. Instructors receiving training in WEX were less clear about these connections, especially when being trained in the first portion of the curriculum, which focused on the development of personal narratives rather than evidence-based writing. Teachers saw clearer connections in later trainings, when the WEX curriculum focused on responding to fiction and nonfiction texts.

^bThese data represent classes in which the WEX or EMPower curriculum was actually taught.

^{28.} Zachry Rutschow and Crary-Ross (2014).

- WEX and EMPower were implemented widely across the D79 and OACE programs. WEX was piloted with more than 1,100 students in D79 — nearly 14 percent of D79's student population. OACE implemented WEX and EMPower with even more students: More than 600 students received WEX and more than 1,300 students received EMPower (see Table 3).29
- · Instructors using the WEX and EMPower curricula saw value in their respective approaches and felt that these curricula helped prepare students for the 2014 GED. Although connections to the Common Core and 2014 GED were not always explicit in their teaching, a majority of WEX and EMPower teachers noted seeing a connection between the WEX and EMPower curricula and either the 2014 GED, the Common Core, or both. In addition, WEX instructors particularly appreciated WEX's focus on writing routines and the use of evidence in writing, which they saw as well aligned with the 2014 GED's new writing standards. Teachers also felt that WEX's focus on sustained writing during each class period helped improve their students' writing stamina. EMPower teachers felt that the use of manipulatives and hands-on exercises helped students engage in class and learn math more easily. More specifically, they felt these activities helped their students break down complicated math into easier-to-understand components, which aided in their overall conceptual understanding. They also appreciated that the curriculum offered multiple methods for solving math problems, allowing students to choose which method best fit their own learning style.
- WEX and EMPower instructors generally followed the suggested lesson outline and content. The majority of teachers implementing WEX and EMPower lessons tended to follow the recommended guidelines for the class, using both the suggested content and the pedagogical approach in each lesson. For instance, most WEX instructors followed most of WEX's seven-step routine, including a short lecture on a new topic, an activity focused on practicing that newly learned skill, a short discussion "warm up" before journal writing, and sharing their writing before closing the class with a summary of the lesson. In EMPower classes, teachers tended to begin with a review of the lesson's objective and a group activity intended to deepen students' learning of a new mathematical concept. Then students would practice that skill on their own.
- · Overall, students in focus groups had positive reactions to WEX and EMPower and noted improvements in their reading, writing, and math skills. In particular, WEX students felt that their writing was better, with many feeling that their ability to formulate and structure essays as well as their writing endurance had improved. Some students also noted that WEX had improved their reading comprehension, noting that they felt better prepared for reading and interpreting long passages. EMPower students also felt that their skills had improved. In particular, they noted an increased ability to break down complex equations into smaller pieces. (See Box 3 for student reflections.)

^{29.} Numbers are duplicated.

BOX 3

Student Reflections on WEX and EMPower

WEX

In general, the students in focus groups appreciated WEX's emphasis on writing systematically as well as lessons that helped them focus on concrete details within the text. Some students noted challenges in sharing their work and receiving feedback from other students, though they also felt that these tasks got easier over time.

We've been using [WEX] almost every day and it's been helpful for me because it's easier for me to elaborate on my writing. ... When I take college classes and I have to write papers, it's like oh...this is easy.

Another thing that helped me...was when it said highlight and write in the margins so I would write my ideas, like whatever I'm thinking. ... Highlighting them just made them so much easier because when I'm flipping back it was just easier for me to find. ... That really helps with the long passages.

[WEX] can also help you writing your essay, your final essay for the GED. It's going to help us like be...faster and have more ideas and think fast.

When I [first started], I used to snatch my notebook, like I didn't want her to make me read my stuff out loud. I used to snatch it from her. ... But then I got accustomed to it and I read.

EMPOWER

Overall, students appreciated the real-world content of EMPower and the curriculum's focus on helping them learn how to do math "in their head." However, they also noted that pacing of the lessons could be a challenge.

I like [the EMPower books]. They're very interesting. Math was my worst subject and since I've been coming to school and doing Mental Math, it improved so I like it. ... It helped me a lot because I can go in the supermarket, go shopping, and put so many items in the pushcart, and I can count what I'm going to spend in my head before I get to the cashier's — so I know exactly how much money I'm going to spend.

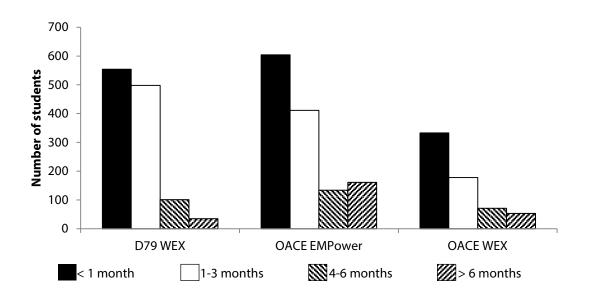
Prior to coming here, if I'd have got [an EMPower] worksheet like we got today, I'd have been lost, totally lost. But you know our teacher just shows us how and she uses different methods. She might use money, she might use ounces, she might use a pound... things like that...it helped me.

But some teachers, they can get frustrated...because they want to move on. But how are you going to move on when some of us are not getting it? That happens in my class a lot. ... We're already on something that we've been stuck on for weeks or months or whatever, and we'll go past that — but still some people don't understand it. ... You move into the next phase and they don't understand that so they [the teachers] get frustrated when you tell them to go back a little bit. It's like, "no, we've got to move on." How are you going to move on when you don't even understand this? You've got to explain it to us.

I hadn't been to school...in a while and [EMPower] just simplifies a lot of things for me that I thought was complicated. ... It's much more easy than that old way [I learned math]. ... I haven't been to school in a long time but I've learned in the last say three months we've had, more than I've known practically all my life to be honest with you and it just simplifies...it's just easier.

NOTE: Data in this box were gathered through three focus groups with students attending WEX and EMPower classes in D79 and OACE during spring 2013.

FIGURE 1 Frequency Distribution of Students, by Length of Time in WEX/EMPower Program



SOURCE: Data provided by D79 and OACE on WEX and EMPower students.

Implementation Challenges

- Students being taught with WEX and EMPower curricula in D79 and OACE were highly transient, with the average student persisting in classes for less than three months. As can be seen in Table 3 and Figure 1, D79 WEX students persisted for less than two months (6.3 weeks), on average. The average OACE WEX student persisted for just under two months (7.5 weeks), while the average OACE EMPower student remained at OACE for just over two months (8.9 weeks). A large proportion of WEX and EMPower students remained at D79 and OACE for less than one month — less than one-third of students remained in these programs for more than three months. (See Figure 1.) In addition, students tended to have highly sporadic attendance during the time they were enrolled in these programs. For instance, both D79 and OACE students showed up for class 2.3 days or less during the weeks they attended. This suggests that even though students remained in the program for one to three months, they attended class only one to three days a week, on average.
- The sequential nature of the curricula and difficulties with course materials posed persistent challenges in implementing both WEX and EMPower. D79 and OACE teachers noted that the sporadic nature of students' attendance and the enrollment of new students within their classes made following the sequenced lesson plans provided by WEX and EMPower difficult. This was particularly true for WEX instructors, as lessons typically used work students did in a previous class (for example, a text they had read or an essay they had developed). In addition, instructors noted challenges in covering all the course material in one session, particularly when this

required the reading of lengthy texts (WEX), the need to supplement students' skills (both), or lessons requiring a number of activities (both). Teachers and administrators in D79 argued that the EMPower curriculum and structure (which focused on real-life activities such as balancing a checkbook) were not appropriate for their student populations. Finally, despite the repetition in skills from lesson to lesson, WEX and EMPower teachers noted that students who did not regularly attend class had difficulty grasping material covered in a previous lesson. This led teachers to stretch single lessons over multiple class periods, repeat lessons multiple times, or, in some cases, not fully implement the curriculum (as was the case with D79 and EMPower).

- Implementation problems and students' inconsistent attendance led to students receiving a limited amount of WEX and EMPower instruction. Attendance data and teacher logs suggest that students received relatively few hours of WEX and EMPower instruction.³⁰ Although students remained in D79 and OACE for two to three months, attendance data from WEX and EMPower classes suggest that the average student received fewer than 10 hours of WEX instruction in both D79 and OACE classes and fewer than 20 hours of instruction in EMPower in OACE classes.³¹ In addition, both interviews with teachers and teacher logs suggest that instructors were implementing WEX and EMPower less often each week than D79 and OACE administrators had advised.
- Teachers' interest in and implementation of WEX and EMPower often depended on their administrators' interpretation of the curricula. While some teachers modified the WEX curriculum of their own accord or used EMPower in ways they felt were appropriate for their students, most teachers were heavily influenced by their administrators' interpretation of WEX and EMPower and the curricula's flexibility. Based on observations of and interviews with teachers, administrators, and stakeholders, instructors who implemented the curricula more successfully tended to have administrators who were heavily involved with implementation and encouraged flexibility with the curricula, while teachers who had more problems tended to have administrators who were uninvolved or had a negative perspective on WEX and EMPower. Teachers with uninvolved administrators seemed more likely to respond to what was conveyed by other teachers, trainers, or district staff and view the curricula more rigidly.
- District reorganization and staff turnover in D79 and OACE made it difficult to create a seamless message about the implementation of WEX and EMPower. Although OACE had experience with a previous version of EMPower and D79 held an initial focus group with instructors, both the WEX and EMPower curricula were selected by district administrators and the Learning Pathways Pilots leadership, with less input from instructors. In addition, both District 79 and OACE experienced multiple turnovers in their superintendent leadership and higher-level administration. This led to difficulties communicating with faculty about the nature of pilots and the curricula. Accordingly, many teachers were unclear about why the curricula were selected, how much flex-

^{30.} Estimates of student WEX and EMPower exposure are calculated by averaging the sums of lesson durations from teacher self-report logs on the days that students attended classes in the D79 or OACE programs. D79 teachers submitted logs voluntarily, leading to some missing data. Averages were cross tabulated across multiple teacher subgroups known to be implementing the curricula in both D79 and OACE. The number provided is an approximation derived from these calculations.

^{31.} The EMPower curriculum was not fully implemented in D79 classes, so receipt of the curriculum is not recorded.

ibility they had in adopting the curricula, and what their role was in the pilot project. Although a number of faculty clearly adopted the curricula as their own and provided model leadership, others felt less ownership and were less committed to implementation of WEX and EMPower as a result.

STUDENT OUTCOMES

MDRC did not undertake a random assignment study of the Learning Pathways Pilots. Instead, descriptive statistics of students' skills and GED receipt were analyzed over the two-year implementation period. MDRC collected data on 1,823 WEX students in D79 and OACE and on 1,310 EMPower students at OACE. In D79 and OACE, students' skill levels were monitored by the TABE reading and math exams, which students are required to take when they enter the programs, and approximately every three months over the course of their enrollment. The key conclusions from these analyses were that students in both WEX and EMPower classes as well as those in OACE's and D79's regular programs achieved greater mastery of math and writing skills over time. WEX and EMPower students also had GED pass rates similar to those of the national GED population. However, the design of the study did not allow for a causal analysis of whether the WEX and EMPower programs or other factors contributed to students' skill development or pass rates.

Students' Entering-Skill Levels

In both D79 and OACE, WEX students had, on average, a seventh-grade reading level when they entered the program; EMPower students entered with approximately sixth-grade-level math skills. These skill levels were slightly lower than the average D79 and OACE student, who entered with approximately eighth-grade reading and seventh-grade math skills.

Changes in Students' Skill Levels over Time

In general, both WEX and EMPower students as well as those in OACE's and D79's regular classes improved their TABE scores. In D79, WEX students saw an average 0.7 grade-level improvement in their TABE reading scores, for an average post-test score of 7.0, while non-WEX students saw a 1.0 grade-level improvement, with a post-test score of 7.5. In OACE, WEX students made a 1.5 grade-level change on the TABE reading assessment (to 8.3 post-test score), while non-WEX students achieved a 0.3 grade-level change in reading (to 8.0 grade level post-test).

Because D79 and OACE tracked students' reading and math performance, not their writing progress, the Learning Pathways Pilots also gave a writing exam to students. This exam was similar to the writing prompt in the 2002 GED, which asked students to construct an interpretative essay that used evidence to support their claims. The test is measured with a rubric ranging from one to four, with four being the highest score and two representing a passing score. In both OACE and D79, students started with an average score of 2.3, meaning that they had already achieved a passing score on the writing exam. District 79 students' scores remained the same at the post-test level four months later, while OACE students' scores increased to 2.4.

EMPower and non-EMPower students also improved their TABE scores over time in OACE. EMPower students had an average gain of 1.5 grade levels in their TABE math scores (to 7.3 grade level) over time, while non-EMPower students had 0.3 increase in their TABE (to 7.3 grade level). While these differences may seem considerable, note that students in WEX classes, which did not focus on a new math intervention, also achieved a 1.5 grade-level increase in their TABE math scores, for a post-test score of 7.8 (students in D79 WEX classes also had a similar gain of 1.3 grade levels, for a post-test score of 6.8). Similarly, EMPower and non-EMPower students in OACE also increased their reading levels by 1.4 and 0.3 grade levels, respectively, even though EMPower focused primarily on students' math skills. Students were not randomly assigned to these different interventions, and the limitations of the teacher logs made accurate tracking of students' receipt of the curriculum challenging. Therefore, determining what caused these changes in students' test scores is also difficult.

GED Attempts and Pass Rates

Information on students' attempts to pass and successful passing of the GED exam were monitored through assessment data provided by the New York State Education Department to OACE and D79. However, because OACE tracks these scores among a very small population of students,³² only D79 students' GED scores are reported here. A total of 19.4 percent of D79 WEX students attempted the GED, with 68.4 percent of those who attempted the test earning a passing score. Attempts and pass rates were slightly higher among non-WEX students, with approximately 26.2 percent of D79 students taking the exam and 71.8 percent passing it. Both of these estimates also track with national GED pass rates reported by the GED Testing Service, where approximately 68.8 percent of students who took the test passed it in 2012.³³

As noted above, these outcomes are descriptive and do not provide a rigorous assessment of the effect of WEX or EMPower on students' performance. Selection mechanisms for both teachers and students into the WEX and EMPower classes were not random and are not understood well enough to reasonably quantify or control for their influence on student outcomes. Accordingly, these statistics should be interpreted cautiously.

IMPLICATIONS FOR POLICY AND PRACTICE

The implementation of new curricula and instructional practices can be challenging in any education setting. As is well-known in the literature on reforms in K-12, most attempts to reform classroom instruction fail to fully affect teachers' practice, as instructors adopt only certain elements of a more broad-ranging reform or implement these new practices only superficially within their classrooms.³⁴ In addition, instructors, who are used to being in charge of their own domain within the classroom, typically react negatively to externally developed, top-down interventions with which they have had little contact or in which they have little investment.³⁵ As such, research has shown that attempts

^{32.} GED test scores were only tracked among four classes, and fewer than 100 students took the GED in these classes.

^{33.} GED Testing Service (2013).

^{34.} Cuban (1993); Tyack and Cuban (1997); Cohen and Ball (2000).

^{35.} Elmore, Peterson, and McCarthey (1996); Tyack and Cubin (1997); Coburn (2003).

at large-scale reform in K-12 settings have typically failed when they do not consider the contexts in which they are being implemented and do not provide support to those responsible for carrying out changes (such as instructors).³⁶ Researchers have argued that meaningful changes in classroom practice require sustained supports, including training, coaching, and learning/practice communities — nearly all of which go beyond the meager resources available for professional development in most adult education programs.

The challenges that D79 and OACE faced in implementing WEX and EMPower should be placed within this context. Although D79 and OACE district leaders attempted to develop the kinds of on-site training and coaching models thought to be most successful in changing teacher practice,³⁷ they had to cope with staff turnover, difficulties in covering the full curricular content, and miscommunication between administrative staff and instructors about the purpose of such reforms. In addition to these issues, D79 and OACE experienced problems inherent in many adult education programs, including a highly transient student population and having to implement a sequenced set of lessons within constantly changing classroom populations.

The changes that the Learning Pathways Pilots did effect, however, are substantial. First, the pilots implemented more rigorous, Common Core-aligned curricula in adult education classrooms — an improvement over the test-prep materials often used in these classes. Furthermore, teachers tended to see value in the content of both WEX and EMPower, saw them as well aligned with the 2014 GED, and appreciated their attempts to develop students' critical thinking, writing, and math skills in more active, novel ways. Finally, these curricula were piloted with thousands of students, revealing that such curricular changes can happen on a broad scale.

In addition, both District 79 and OACE attempted to respond to the issues that arose in implementing their programs. For instance, when district administrators learned that D79 teachers felt the first portion of the WEX curricula was too lengthy, they worked to shorten the lesson sequence. Additionally, district administrators pushed for a clearer emphasis on the EMPower and WEX curricula's alignment with the Common Core in staff trainings. Successes with the WEX curriculum have led the D79 administration to push for WEX to be adopted throughout D79 writing classrooms.

D79's and OACE's experiences also point to several ways that adult education practices might be modified to further facilitate new curricular reforms. These include:

• Creating shorter lesson cycle sequences that align with adult students' attendance patterns. D79's and OACE's open enrollment policies tended to complicate teachers' attempts to sequentially implement the WEX and EMPower curricula, as they had to constantly acquaint new or erratically attending students with previously covered material. To better serve this population, adult education programs might consider adapting these enrollment practices and modifying new curricula accordingly. For instance, programs could allow for enrollment within short cyclical periods of a few weeks or months, developing cohorts of students who receive sequential instruction. Such

^{36.} Elmore, Peterson, and McCarthey (1996); Coburn (2003); Cohen and Ball (2000).

^{37.} Coburn (2003); Coburn (2005); Stigler and Hiebert (1999); Darling-Hammond et al. (2009); Elmore (2000).

cycles would allow newly entering students to start at the beginning while creating diversified instructional sequences that would allow transient students to enter at differing levels of the program sequence. Of course, such practices depend on having enough staff available to teach a diverse set of courses — which is not the case in many adult education settings. However, these shortened enrollment cycles have been well-implemented at a number of other adult education programs throughout the country with similar resource constraints.³⁸

- Providing additional out-of-classroom supports to give absent students the opportunity to work on course materials. A key challenge to D79's and OACE's implementation of WEX and EMPower was students' inconsistent classroom attendance. A number of adult education programs throughout the country have been experimenting with supplemental ways to support these students' learning, including providing online modules of course lessons or computer-based materials that connect with the learning happening in class.³⁹ Although not an option in D79 and OACE classrooms (because computer-based technology was not easily available), programs with access to computer labs or online courses might consider integrating these supports into their programs.
- Fostering faculty participation in decision making about curricula. D79 and OACE faculty seemed most put off by the WEX and EMPower curricula when they did not understand why the curricula were selected, viewed themselves as having little control over decision making, and perceived administrators as forcing the implementation of reforms. These attitudes were often sitebased, with multiple teachers having the same perspective, and most often occurred in sites where principals were uninvolved with the new reforms or had a negative view of them. This is similar to the implementation difficulties noted in K-12 sites, where faculty peers and their principals play a large role in the interpretation and implementation of new policies. 40 Given the important role of faculty networks, reformers should seek to actively engage them throughout the process, including in decision making about curricula. In addition, principals can play an important role in communicating about new initiatives and involving faculty in their development. Creating avenues for faculty reflection and participation can help foster instructors' ownership of reforms and increase the likelihood that changes will take place in the classroom.

The Learning Pathways Pilots project was successful in one of its primary aims: the development of new curricular models that focus on skills that are well aligned with the Common Core State Standards and the 2014 GED. However, the experiences of the pilots also underscored the difficulties in implementing these more rigorous models in open enrollment adult education classrooms: Far too few students actually remain in the program long enough to receive the potential benefits of this new course content. The critical need is for adult education programs to meet their students where they are — which, for better or worse, is often not in adult education classrooms — while introducing new, more demanding curricula that may better prepare them for success in today's labor market. Only by addressing both of these challenges will students be in a position to improve their chances in the world beyond their adult education classroom.

^{38.} Zachry Rutschow and Crary-Ross (2014).

^{39.} Moore (2009); Rachal (1993).

^{40.} Coburn (2001); Bryk et al. (2009).

REFERENCES

- American Council on Education. 2010. "GED 21st Century Initiative District 79 Accelerated Learning Pilot Program." Proposal Submitted to MetLife Foundation.
- American Council on Education. 2011. "ACE and Pearson Collaborate to Transform GED Test, Aligned with Common Core State Standards, Based on GED 21st Century Initiative." Website: http://www.acenet.edu/ news-room/Pages/ACE-and-Pearson-Collaborate-to-Transform-GED-Test.aspx.
- Amplify Education Inc. 2014. "Curriculum The Writers' Express." Website: http://www.amplify.com/ curriculum/the-writers-express.
- Beder, Hal, and Patsy Medina. 2001. Classroom Dynamics in Adult Literacy Education. NCSALL Reports #18. Cambridge, MA: National Center for the Study of Adult Learning and Literacy, Harvard University Graduate School of Education.
- Bryk, Anthony, Penny Sebring, Elaine Allensworth, Stuart Luppescu, and John Easton. 2009. Organizing Schools for Improvement: Lessons from Chicago. Chicago: The University of Chicago Press.
- Chisman, Forrest. 2011. Closing the Gap: The Challenge of Certification and Credentialing in Adult Education. New York: Council for the Advancement of Adult Literacy.
- Coburn, Cynthia. 2001. "Collective Sensemaking About Reading Policy in Their Professional Communities." Educational Evaluation and Policy Analysis 23, 2: 145-170.
- Coburn, Cynthia. 2003. "Rethinking Scale: Moving Beyond Numbers to Deep and Lasting Change." Educational Researcher 32, 6: 3-12.
- Coburn, Cynthia. 2005. "Shaping Teacher Sensemaking: School Leaders and the Enactment of Reading Policy." Educational Policy 19, 3: 476-509.
- Cohen, D. K., and Deborah Loewenberg Ball. 2000. "Instructional Innovation: Reconsidering the Story." The Study of Instructional Improvement Working Paper. Ann Arbor: The University of Michigan.
- Comings, John, Andrea Parrella, and Lisa Soricone. 1999. Persistence Among Adult Basic Education Students in Pre-GED Classes. NCSALL Report #12. Cambridge, MA: National Center for the Study of Adult Learning and Literacy, Harvard Graduate School of Education.
- Common Core State Standards Initiative. 2012. "English Language Arts Standards>>Anchor Standards>>College and Career Readiness Anchor Standards for Writing." Website: http://www.corestandards.org/ELA-Literacy/CCRA/W/.

- Cuban, Larry. 1993. How Teachers Taught: Constancy and Change in American Classrooms, 1890-1990. New York: Teachers College Press.
- Curry, Donna, Mary Jane Schmitt, Myriam Steinback, and Martha Merson. 2013. "Everyday Number Sense Plus," "Using Benchmark Fractions Plus," and "Split It Up Plus." Learning Pathways Pilot and EMPower. Cambridge, MA: TERC.
- Darling-Hammond, Linda, Ruth Chung Wei, Alethea Andree, Nikole Richardson, and Stelios Orphanos. 2009. "State of the Profession: Study Measures Status of Professional Development." Journal of Staff Development 30, 2: 42-44, 46-40.
- Elmore, Richard F. 2000. Building a New Structure for School Leadership. Washington, DC: The Albert Shanker Institute.
- Elmore, Richard F., Penelope L. Peterson, and Sarah J. McCarthey. 1996. Restructuring in the Classroom: Teaching, Learning & School Organization. San Francisco: Jossey-Bass.
- EMPower. 2014a. "Curriculum Overview." Website: http://empower.terc.edu/curriculum.html.
- EMPower. 2014b. "EMPower History." Website: http://empower.terc.edu/empowerhistory.html.
- GED Testing Service. 2012a. 2011 Annual Statistical Report on the GED Test. Washington, DC: GED Testing Service, American Council on Education.
- GED Testing Service. 2012b. "The New Assessment Is a Stepping Stone to a Brighter Future." Website: http://www.gedtestingservice.com/educators/new-assessment.
- GED Testing Service 2013. 2012 Annual Statistical Report on the GED Test. Washington, DC: GED Testing Service, American Council on Education.
- GED Testing Service. 2014a. "Mathematical Reasoning." Website: http://www.gedtestingservice.com/testers/mathlink.
- GED Testing Service. 2014b. "Program and Services." Website: http://www.gedtestingservice.com/educators/2014test.
- GED Testing Service. 2014c. "Reasoning Through Language Arts (RLA)." Website: http://www.gedtestingservice.com/testers/rlalink.
- GED Testing Service. 2014d. "Science." Website: http://www.gedtestingservice.com/testers/sciencelink.
- GED Testing Service. 2014e. "Social Studies." Website: http://www.gedtestingservice.com/testers/ socialstudieslink.

- Gopalakrishnan, Ajit. 2008. "Learner Retention in Adult Secondary Education: A Comparative Study." Adult Basic Education and Literacy Journal 2, 3: 140-150.
- Moore, Sarah Cathering K. 2009. "Uses of Technology in the Instruction of Adult English Language Learners." CAELA Network Brief. Washington, DC: Center for Applied Linguistics.
- National Governors Association Center for Best Practices, Council of Chief State School Officers. 2010. Common Core State Standards. Washington, DC: National Governors Association, Council of Chief State School Officers. Website: http://www.corestandards.org/the-standards.
- NYC Department of Education District 79. 2014. "Schools, Programs, & Services." Website: http://schools.nyc.gov/Offices/District79/SchoolsProgramsServices/default.htm.
- Rachal, John R. 1993. "Computer-Assisted Instruction in Adult Basic and Secondary Education: A Review of the Experimental Literature, 1984-1992." Adult Education Quarterly 43, 3: 165-172.
- Sabatini, John P., Melanie Daniels, Lynda Ginsburg, Kelly Limeul, Mary Russell, and Regie Stites. 2000. Teacher Perspectives on the Adult Education Profession: National Survey Findings About an Emerging Profession. NCAL Technical Report TR00-02. Philadelphia: National Center on Adult Literacy.
- Smith, Cristine, Judy Hofer, Marilyn Gillespie, Marla Solomon, and Karen Rowe. 2003. How Teachers Change: A Study of Professional Development in Adult Education. NCSALL Report #25. Cambridge, MA: National Center for the Study of Adult Learning and Literacy, Harvard Graduate School of Education.
- Stigler, James, and James Hiebert. 1999. The Teaching Gap: Best Ideas from the World's Teachers for *Improving Education in the Classroom.* New York: Free Press.
- Tamassia, Claudia, Marylou Lennon, Kentaro Yamamoto, and Irwin Kirsch. 2007. Adult Education in America: A First Look at Results from the Adult Education Program and Learner Surveys. Princeton, NJ: Educational Testing Service.
- Tyack, David, and Larry Cuban. 1997. Tinkering Toward Utopia: A Century of Public School Reform. Cambridge, MA: Harvard University Press.
- Tyler, John. 2004. "The General Education Development (GED) Credential: History, Current Research, and Directions for Policy and Practice." Review of Adult Learning and Literacy 5, Chapter 3: 45-83.
- U.S. Department of Education. 2012. "FY 2013 President's Budget." Website: http://www2.ed.gov/about/ overview/budget/tables.html?src=rt.
- U.S. Department of Education, Office of Vocational and Adult Education. 2005. Adult Education and Family Literacy Act: Program Facts. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.

- U.S. Department of Education, Office of Vocational and Adult Education. 2013a. Adult Education and Family Literacy Act of 1998: Annual Report to Congress, Program Year 10-2011. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.
- U.S. Department of Education, Office of Vocational and Adult Education. 2013b. Measures and Methods for the National Reporting System for Adult Education. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.
- Zachry Rutschow, Elizabeth, and Shane Crary-Ross. 2014. Beyond the GED: Promising Models for Moving High School Dropouts to College. New York: MDRC.
- Zhang, Jizhi, Anne Guison-Dowdy, Margaret B. Patterson, and Wei Song. 2011. Crossing the Bridge: GED Credentials and Postsecondary Education Outcomes: Year 2 Report. Washington, DC: GED Testing Service, American Council on Education.

ABOUT MDRC

MDRC IS A NONPROFIT, NONPARTISAN SOCIAL POLICY

research organization dedicated to learning what works to improve the well-being of low-income people. Through its research and the active communication of its findings, MDRC seeks to enhance the effectiveness of social and education policies and programs.

Founded in 1974 and located in New York City and Oakland, California, MDRC is best known for mounting rigorous, largescale, real-world tests of new and existing policies and programs. Its projects are a mix of demonstrations (field tests of promising new program approaches) and evaluations of ongoing government and community initiatives. MDRC's staff bring an unusual combination of research and organizational experience to their work, providing expertise on the latest in qualitative and quantitative methods and on program design, development, implementation, and management. MDRC seeks to learn not just whether a program is effective but also how and why the program's effects occur. In addition, it tries to place each project's findings in the broader context of related research — in order to build knowledge about what works across the social and education policy fields. MDRC's findings, lessons, and best practices are proactively shared with a broad audience in the policy and practitioner community as well as with the general public and the media.

Over the years, MDRC has brought its unique approach to an ever-growing range of policy areas and target populations. Once known primarily for evaluations of state welfare-to-work programs, today MDRC is also studying public school reforms, employment programs for ex-offenders and people with disabilities, and programs to help low-income students succeed in college. MDRC's projects are organized into five areas:

- · Promoting Family Well-Being and Child Development
- · Improving Public Education
- · Promoting Successful Transitions to Adulthood
- · Supporting Low-Wage Workers and Communities
- · Overcoming Barriers to Employment

Working in almost every state, all of the nation's largest cities, and Canada and the United Kingdom, MDRC conducts its projects in partnership with national, state, and local governments, public school systems, community organizations, and numerous private philanthropies.