Impact Evaluation of Progress Learning in the Douglas County School System

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EXECUTIVE SUMMARY: Impact Evaluation of Progress Learning in the Douglas County School System

In May 2023, CRRE partnered with Progress Learning LLC (PL) to conduct a quasi-experimental design (QED) study examining mathematics and ELA achievement outcomes for the 2022-23 school year in the Douglas County School System (DCSS) in Georgia. The specific research interest for this study was to examine the efficacy of Progress Learning programming in DCSS by comparing math and ELA achievement patterns of middle school (Grades 6-8) students in classrooms that used PL programming to that of students in classrooms that did not use PL programming. In addition, teacher perceptions of PL were examined through the administration of a teacher questionnaire.

Research questions for the present evaluation included the following:

1) How does participation in Progress Learning impact student achievement in middle school math, Algebra I, and middle school ELA?
    a) Does level of program usage relate to student achievement effects?
    b) To what degree do effects vary across:
        i) Academic subjects?
        ii) Grade levels?
        iii) Student subgroups (ethnicity, gender, ELL, SPED)
2) What are teachers' perceptions of the program with regard to:
    a) Benefits for students?
    b) Student engagement?
    c) Implementation requirements?
    d) Strengths and weaknesses?
    e) Recommendations for implementation improvement?

Research Design

This study examined program impacts and teacher perceptions of Progress Learning by conducting a retrospective, mixed-methods quasi-experimental design (QED) study in Grades 6-8 of the Douglas County School System in the 2022-23 school year. Outcome measures for this study included Georgia Milestones Mathematics and ELA scores. Milestones score gains from spring 2022 to spring 2023 were compared between treatment students whose teachers used Progress Learning and comparison students whose teachers did not use Progress Learning. Achievement and extant student-level Progress Learning usage data were analyzed descriptively, and hierarchical linear modeling (HLM), with students nested in teachers, was used to conduct the main impact analyses. A questionnaire was made available for voluntary completion to Algebra I teachers who used Progress Learning. Of the 20 teachers to whom the survey was offered, only eight teachers responded, resulting in a 40% response rate. The teacher questionnaire contained Likert-scale and yes/no questions, along with three open-ended items, and covered content relating to classroom practices; student engagement and achievement; program implementation and usage; professional development; and overall program perceptions.

Study Sample

DCSS provided CRRE with two years of Georgia Milestones data, along with demographic and rostering data. As many students were listed as having two or more teachers in mathematics and ELA, additional teacher data from Progress Learning was used to correctly group treatment students with their teachers. Comparison students were grouped with teachers based on DCSS guidance. Only students with non-missing pretest (spring 2022) and posttest (spring 2023) Georgia Milestones scores, along with demographic data, were included in the analytic sample. This resulted in analytic sample sizes of 4,310 students for mathematics analyses and 4,268 students for ELA analyses. Treatment and comparison samples were demographically very similar, with just slightly larger percentages of special education students observed in the comparison group.

Achievement Impacts

Results of the main impact analyses showed that Progress Learning had a significant positive impact on Georgia Milestones mathematics score gains, with treatment students outscoring comparison students by more than 4 points. The observed effect size of this impact was 0.09 SDs, indicating a small but meaningful practical impact. The impact of Progress Learning on Georgia Milestones ELA scores was directionally positive, but not statistically significant (p = .118), with treatment students outgaining comparison students by more than 3 points. In addition, both available student-level Progress Learning usage metrics (counts of activities and average activity score) were significantly positively associated with Georgia Milestones gains in mathematics and ELA, after controlling for prior achievement and demographic variables.

Teacher Perceptions

Teacher perceptions of Progress Learning were generally positive, especially in relation to preparedness to implement the program, ability to individualize student learning, and improvement of students' standards mastery. Perceptions were somewhat lower regarding whether the program increased students' achievement level and /or classroom engagement. Interestingly, respondents indicated that they found Progress Learning to be very effective when used in instruction, even though most teachers reported that they and their students used most program features once a week or less.

Conclusions

The key results and conclusions of this evaluation are as follows:

- Progress Learning had a significant positive impact on Georgia Milestones Mathematics scores, with treatment students outgaining comparison students by more than 4 points.
- Progress Learning had a directionally positive impact on Georgia Milestones ELA scores, with treatment students outgaining comparison students by more than 3 points.
- Progress Learning students completed eight Mathematics assignments and 8.5 ELA assignments, on average. Activity scores averaged between 60-65%.
- Counts of Progress Learning activities and average activity score were both significantly positively associated with Georgia Milestones Mathematics and ELA scores.
- Algebra I teachers generally held positive perceptions of Progress Learning, with teachers holding the most positive perceptions of their preparedness to implement the program, along with Progress Learning's ability to improve students' level of standards mastery. Teachers also liked the ability of Progress Learning to individualize instruction.

Impact Evaluation of Progress Learning in the Douglas County School System

In May 2023, CRRE partnered with Progress Learning LLC (PL) to conduct a quasi-experimental design (QED) study examining mathematics and ELA achievement outcomes for the 2022-23 school year in the Douglas County School System (DCSS) in Georgia. The specific research interest for this study was to examine the efficacy of Progress Learning programming in DCSS by comparing math and ELA achievement patterns of middle school (Grades 6-8) students in classrooms that used PL programming to that of students in classrooms that did not use PL programming. In addition, teacher perceptions of PL were examined through the administration of a teacher questionnaire.

As described by Progress Learning, their comprehensive, standards-aligned instructional resource and content solution is designed for Grades K-12 in multiple subjects (e.g., ELA and math, Algebra I, world history, science, American literature and composition, and others). Over the last three decades, Progress Learning has developed innovative, high-quality, tech-enabled education solutions, progress monitoring, and standards-aligned content created by veteran classroom teachers. These products have served more than 2 million students per year in 4,000 school districts nationwide across 50 states. More information can be found at progresslearning.com.

Research questions for the present evaluation included the following:

1) How does participation in Progress Learning impact student achievement in middle school math, Algebra I, and middle school ELA?
    a) Does level of program usage relate to student achievement effects?
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Method

Research Design

This study used a quasi-experimental design (QED) in Grades 6-8 of DCSS schools in the 2022-23 school year. Georgia Milestones ELA and Mathematics scores were used as the main outcome variables in quantitative analyses. Across DCSS, middle school teachers were given the option to opt-in to using Progress Learning. Teachers who opted in were considered treatment teachers, while teachers that did not opt in were considered comparison teachers. Both treatment and comparison teachers were found in all DCSS middle schools in both ELA and mathematics. In ELA, 38 of 80 teachers opted to use Progress Learning, while in mathematics, 39 of 77 teachers opted to use Progress Learning. In addition, Algebra I was identified by Progress Learning as an additional focus area for analysis; however, DCSS only provided data from six treatment and three comparison teachers. With only a total of 175 students from nine teachers, Algebra I data analysis was restricted to supplemental descriptive analyses.

Hierarchical Linear Modeling, with students nested within teachers, was used in the main impact analyses, as gains in Milestones scores from 2022 to 2023 were compared for students with teachers that used Progress Learning and those for students with non-Progress Learning (comparison) teachers. Propensity score weighting (PSW) was used to adjust for prior achievement and demographic differences between treatment and comparison samples. A questionnaire was made available for voluntary completion by DCSS Progress Learning teachers after completion of the 2022-23 school year. Algebra I teachers were chosen by Progress Learning as the targeted sample for teacher questionnaire completion, so the questionnaire was only made available to these teachers in the district.

Participants

DCSS is a large suburban school district that serves approximately 26,000 students and is Georgia's 17th largest public school system. Approximately half of DCSS students districtwide are Black, followed by White and Hispanic students. DCSS contains eight middle schools, which were the focus for the present study.

Student sample. CRRE initially received student data for 4,540 students from DCSS. The analytic student sample included all Grades 6-8 students from both treatment and comparison teachers across all DCSS middle schools with non-missing 2022 and 2023 Georgia Milestones ELA and/or Mathematics scores, as well as demographic data. Just over 9% of observations were dropped because of missing Milestones and/or demographic data. Tables 1 and 2 show the demographic makeup of treatment and comparison conditions for the ELA and mathematics samples, respectively. It is important to note that Algebra I students are not included in this analysis, as they were examined in a separate descriptive analysis.

Table 1

Student Characteristics of Analytic Sample, ELA (Unadjusted)

Group	Treatment	Comparison
% Female	50.79	50.80
% Black	52.78	56.88
% Hispanic	22.97	18.74
% White	17.61	17.50
% Other Race	6.65	6.88
% ELL	3.82	3.46
% Special Education	6.00	12.12*
N	2,016	2,252

Note. * $p < .05$.

Table 2

Student Characteristics of Analytic Sample, Mathematics (Unadjusted)

Group	Treatment	Comparison
% Female	50.68	50.29
% Black	55.96	55.27
% Hispanic	19.95	22.04
% White	16.67	16.69
% Other Race	7.42	5.99
% ELL	3.73	4.55
% Special Education	7.50	13.43*
N	2,442	1,869

Note. * $p < .05$.

Student demographics were generally very similar across both conditions. The only significant discrepancy was in the percentage of special education students, with a slightly larger percentage of special education students observed in the comparison condition. Across both conditions, slightly more than half of all students were Black, followed by approximately 20% Hispanic students and 18% White students. Very few ELL students were observed across the analytic sample.

Teacher sample. Respondents to the teacher questionnaire included eight Algebra I teachers who implemented Progress Learning in their DCSS classrooms during the 2022-23 school year. All of the respondents had been teaching Algebra I for at least four years, with the majority having between four and six years of experience. Five respondents taught eighth grade and three taught at the ninth-grade level.

Measures

Data sources for the current study include student achievement and demographic data, along with teacher questionnaire data. PL also provided CRRE with teacher and student-level program usage data.

Student achievement. Georgia Milestones Mathematics and ELA scores were used as the main achievement variables of interest in the main impact analyses. According to the Georgia Department of Education, the Georgia Milestones Assessment System is a summative assessment program for students in elementary, middle, and high school, which is designed to measure student readiness for subsequent grade levels or courses. The Georgia Milestones are administered in the spring of each school year to Grades 3-8 students. Students are tested in ELA and mathematics every year, as well as science in Grades 5 and 8, and social studies in Grade 8. Milestones scale scores are normed across each grade level but are not vertically scaled. Spring 2023 ELA and Mathematics Milestones scores were used as the main outcome variables of interest in impact analyses, with spring 2022 ELA and Mathematics Milestones scores used as prior achievement control variables.

Demographic/rostering variables. DCSS provided CRRE with rostering demographic data including gender, race/ethnicity, special education status, and ELL status. Student grade level and school was also included in these data files. ELA and mathematics teachers for each student were also included in rostering data. This was very important, as teachers opted into using Progress Learning, and thus were the unit of analysis. District data files listed multiple ELA and mathematics teachers for many students; thus, PL usage data were employed to assign treatment students to their correct teachers. Comparison students were assigned to teachers by cross-referencing all available district data files.

Progress Learning usage data. Progress Learning provided CRRE with lists of teachers that used the program in the 2022-23 school year in ELA and/or mathematics. These data files also included counts of students that each teacher engaged with Progress Learning materials, as well as counts of total Progress Learning activities. Subsequent rostering data from PL also included counts of unique activities per each student, along with percentage scores on each activity.

Teacher questionnaire. In the fall of 2023, the teacher questionnaire was distributed retrospectively to 20 teachers who implemented Progress Learning with Algebra I students during the 2022-23 school year. A total of eight teachers who had implemented the program in 2022-23 completed the survey, resulting in a 40% response rate, which was somewhat lower than anticipated. Attempts were made to increase the response rate by extending the survey window along with multiple reminders being sent to teachers. The questionnaire included curriculum-specific questions relating to classroom practices; student engagement and achievement; program implementation and usage; professional development; and overall program perceptions. The questionnaire contained Likert-scale and yes/no questions, along with three open-ended items. Likert-scale questionnaire responses were analyzed using descriptive statistics (e.g., percentages and counts), while open-ended questionnaire responses were analyzed qualitatively. A copy of the teacher questionnaire can be found in Appendix A.

Analytical Approach

Data for Grades 6-8 students were analyzed descriptively by examining patterns in Georgia Milestones ELA and Mathematics scores, as well as Progress Learning program usage. Pearson correlations were computed to examine unadjusted associations between outcome variables and student-level PL program usage. Hierarchical Linear Modeling (HLM) with students within teachers was used to determine impacts of PL on Georgia Milestones score gains, as well as to determine relationships between student-level PL usage and Georgia Milestones score gains. Demographic variables including gender, race/ethnicity, ELL status, and SPED status were included in all analytic models, as well as dummy variables for student grade levels and schools. All covariates in regression models were grand-mean centered to enable interpretation of the intercept.

To adjust for prior achievement and demographic differences (namely, special education percentages), propensity-score weighting (PSW) was used to create comparison groups of students that were as similar as possible to treatment students. The PSW process was conducted once for each analytic sample (ELA and mathematics). Within each sample, treatment students were each given a weight of one, and comparison students were each given a weight of:

$$Weight_i = \frac{Probability_i}{1 - Probability_i}$$

Students with weights of greater than 10 were dropped from analyses, as weights of these magnitudes are indicative of individual students who would have an outsized influence on analytic results.

The result of these PSW procedures was that comparison students who were more similar to treatment students, in terms of prior achievement and demographic variables, were weighted more heavily in analyses, and comparison students who were less similar to treatment students were weighted less. This approach resulted in the comparison of weighted comparison groups that were as similar as possible to the observed groups of treatment students. After these weights were applied to comparison students, baseline equivalence was achieved for spring 2022 Georgia Milestones ELA and Mathematics scores, with standardized mean differences across each sample of less than .03 SDs. Unadjusted and adjusted baseline equivalence tables can be found in Appendix B.

It is important to note that Algebra I students were nearly 0.5 SDs apart on unadjusted baseline equivalence. Due to the small number of total students and teachers (175 students with 9 teachers), and especially the small number of comparison students and teachers (50 students with 3 teachers), statistical adjustment could not bring down the standardized mean difference to below 0.25 SDs. Thus, Algebra I analyses were restricted to descriptive analysis of score trends from spring 2022 to spring 2023.

Results

We begin by descriptively examining student-level progress learning usage for treatment students, as well as examining Georgia Milestones score trends for treatment and comparison students from spring 2022 to spring 2023. We then examine the results of the main impact analyses, which examined the impacts of Progress Learning on Georgia Milestones ELA and Mathematics scale scores, as well as Pearson correlations and HLMs that estimate the associations between student-level Progress Learning usage and Georgia Milestones score gains.

Progress Learning Usage

Table 3 shows descriptive statistics relating to Progress Learning usage across both subjects in DCSS.

Table 3

Progress Learning Usage Descriptive Statistics

Usage Metric	Mean	SD	Minimum	Maximum	*N*
Mathematics					
Activities	7.94	7.95	1	44	2,445
Average Score	60.13	18.34	0	100	2,444
ELA					
Activities	8.44	6.55	1	35	2,021
Average Score	64.63	17.29	0	100	1,869

Students who used Progress Learning materials generally averaged approximately eight completed activities, with ELA students averaging slightly more completed activities. Similarly, the average student score for each activity was slightly higher in ELA than in Mathematics.

Impact Analyses

Unadjusted descriptive analysis of Georgia Milestones score trends can be found in Appendix C, along with descriptive analysis of Milestones scores for Algebra I students. For the main impact analyses, Hierarchical Linear Modeling was used with students nested within teachers, and variables controlling for prior achievement and demographic variables, along with student grade level and school, are included in all analyses. We also include the results of supplemental HLMs that examined the impacts of student-level Progress Learning usage variables on Georgia Milestones scores.

The first main analysis examined the impact of Progress Learning on Georgia Milestones Mathematics scores. The Spring 2023 Georgia Milestones Mathematics score is the outcome variable, and the Spring 2022 Georgia Milestones Mathematics scores is the prior achievement variable. Table 4 shows the results of this analysis.

Table 4

Impact Analysis of Progress Learning on Spring 2023 Overall Mathematics Scale Scores

Variable	Estimate	Standard Error	*p* value	Effect Size
Progress Learning	4.112*	1.992	.039	0.09
Constant	498.145***	1.466	<.001	
Variance of constant	46.649			
Residual	498.145			
Student *N*	4,310			
Teacher *N*	77			

Note. * $p < .05$; *** $p < .001$.

Progress Learning was found to have a significant, positive impact on Georgia Milestones Mathematics scores from spring 2022 to spring 2023. The regression estimate can be interpreted as the difference in Georgia Milestones scale score gains for treatment students in relation to weighted comparison students. Here, the results show that treatment students outgained weighted comparison students by slightly more than 4 points. The effect size was 0.09 SDs, indicating a small but meaningful impact of Progress Learning.

We also conducted a similar analysis that examined Georgia Milestones ELA scores. This analysis is very similar to the mathematics analysis, but with the ELA sample and using treatment ELA teachers. As in the previous analysis, the 2023 score was the outcome variable, and the 2022 score was the prior achievement variable. The results are shown in Table 5.

Table 5

Impact Analysis of Progress Learning on Spring 2023 Overall ELA Scale Scores

Variable	Estimate	Standard Error	*p* value	Effect Size
Progress Learning	3.338	2.136	.118	0.06
Constant	515.026***	1.517	<.001	
Variance of constant	33.445			
Residual	836.074			
Student *N*	4,268			
Teacher *N*	80			

Note. *** $p < .001$.

Progress Learning was found to have a directionally positive impact on Georgia Milestones ELA scores from spring 2022 to spring 2023, although this impact did not reach statistical significance. The regression estimate here can be interpreted as similar to that in the prior analysis. Thus, the results show that treatment students outgained weighted comparison students by more than 3 points. The effect size was .06 SDs, indicating a small impact of Progress Learning on student ELA achievement gains.

Subgroup analyses. Next, we present the results of subgroup analyses for both the main mathematics and ELA impact analyses. The purpose of this set of analyses was to examine whether Progress Learning impacts varied across different subgroups. Complete regression tables for all subgroup analyses can be found in Appendix D. Table 6 shows the subgroup impact estimates for selected subgroups in mathematics.

Table 6

Impact of Progress Learning on Spring 2023 Georgia Milestones Mathematics Scores, by Subgroup

	Estimate	*p* value
Subgroup		
Female	6.766**	.001
Black	5.622**	.006
Grade 8	6.148*	.046

Note. * $p < .05$; ** $p < .01$.

Significant Progress Learning impacts were identified for Female, Black, and Grade 8 students, with treatment students in these subgroups outgaining their comparison counterparts by 5-7 points. Specifically, Black treatment students outgained Black comparison students by more than 5.5 points, while Female students and Grade 8 students outgained their comparison counterparts by more than 6 points. Nonsignificant subgroup effects were found for special education, ELL, and Hispanic students.

Similar subgroup analyses were conducted for ELA Milestones scores. None of the subgroups showed significant positive impacts, although impacts for special education students and Grade 8 students approached statistical significance (p = .051 and .064, respectively), with treatment students in these groups outgaining comparison students by 4-6 points. Full ELA subgroup regression analysis results can be found in Appendix D. Across both subjects, subgroup analyses continued to show directionally positive impacts of Progress Learning on achievement gains.

Usage Analyses

In this section, we overview the results of correlational analyses examining the associations between student-level Progress Learning usage metrics and mathematics and ELA Milestones scores. We also discuss the results of HLM models similar to the main impact analyses that show the associations between Progress Learning usage and achievement scores, controlling for prior achievement and demographic variables.

We start by examining Pearson correlations between Progress Learning usage variables and Milestones Mathematics and ELA scores. The results of these analyses are found in Table 7.

Table 7

Associations Between Progress Learning Usage Metrics and Milestones Scores

Usage Metric	Mathematics (n = 2,440)	ELA (n = 2,016)
Number of Activities	+.33	+.21
Average Activity Score	+.61	+.42

Note. All p values < .001.

Both program usage metrics were significantly positively associated with both mathematics and ELA Milestones scores. The magnitudes of these associations ranged from .21-.61, indicating weak to moderate associations between usage and achievement. Pearson correlations were stronger for average activity scores, giving preliminary evidence supporting the predictive validity of Progress Learning activity scores in relation to Georgia Milestones scores, especially in mathematics.

Next, we present the results of HLMs similar to the main impact models. More specifically, the treatment variable from the main impact models was replaced by one of the Progress Learning usage variables. The prior achievement and demographic variables are identical to those used in the main impact analyses. This allowed us to examine the impacts of specific levels of Progress Learning student usage on achievement gains. Note that these analyses are restricted to treatment students with non-missing pretest and posttest scores. The results of these analyses are found in Table 8.

Table 8

Adjusted Associations between Progress Learning Usage and Achievement Gains

Usage Metric	Estimate	Standard Error	*p* value	*N*
Mathematics				
Assignments	0.972***	0.128	<.001	2,441
Average Score	0.471***	0.055	<.001	2,440
ELA				
Assignments	0.696*	0.287	.015	2,016
Average Score	0.438***	0.103	<.001	1,864

Note. * $p < .05$; *** $p < .001$.

Results show that Progress Learning usage metrics were significantly positively associated with mathematics and ELA achievement, even after controlling for prior achievement and demographic variables. The regression estimate in these analyses can be interpreted in the change in Milestones score for every one unit increase in the usage metric. For example, every completed assignment was associated with a near 1-point gain in mathematics Milestones score, and a nearly .70 point gain in ELA Milestones score. Magnitudes of these associations were slightly larger in mathematics, consistent with the results of the main impact analyses.

Teacher Questionnaire Results

Major findings and themes from teacher questionnaire responses are presented in the section below. We begin with findings pertaining to teacher backgrounds, professional development, and Progress Learning curriculum implementation. These sections are followed by results on perceived impact on student learning, and overall perceptions of the curriculum.

Background

Respondents (n = 8) represented Algebra I teachers who implemented Progress Learning in their DCSS classrooms during the 2022-23 school year. All had been teaching Algebra I for at least four years, with the majority having between four and six years of experience. Five respondents taught eighth grade and three taught at the ninth-grade level. When asked if they had experience with other supplemental state standards-aligned resources, five of the eight replied “yes.” Three provided the names of other supplemental resources used, which are listed alphabetically below:

- ABC
- Carnegie Learning
- Classworks
- Desmos

- Kuta
- Illuminate
- McGraw Hill
- Perfection Learning
- Renaissance Star (Math)

Professional Development

Next, respondents were asked in what way(s) they had received training in how to use Progress Learning.[1] Four of six indicated that they had received in-person training, with the remaining responses being through live webinars, training videos, and self-teaching. Six teachers replied to a follow-up question which asked how prepared participants felt to implement Progress Learning, with five out of six indicating that they felt either "somewhat prepared" (n = 3) or "prepared" (n = 2).

Implementation

Respondents were asked to indicate the frequency with which they engaged with various components of the Progress Learning curriculum. Reported usage of curriculum features was generally infrequent with none of the respondents reporting use of any features on a daily basis and only the Progress Reports and Item Analysis being used by any respondents at least 2-3 times per week. All of the respondents reported using the assessments, typically about once a week. Almost all teachers also used the assignment and item analysis features, again most commonly with a frequency of once a week. Instructional resources were utilized with varied frequency by four of the six respondents, also typically about once a week.

Importantly, teachers indicated that many of the program features were never used; for example, four of the six of respondents said they never used the Quick Click Remediation, three had never used the Progress Reports, and two had not utilized the instructional resources such as the bell ringers, videos, and worksheets. Similarly, low frequency use of curricular features on the part of students was reported by teachers responding to the questionnaire. Four of the six respondents indicated that their students had never utilized the Student Study Plan nor the Student Arcade Games. The remaining two teachers reported that their students rarely used these features, about once a month.

Perceived Impacts

Teachers were asked to provide their level of agreement with several statements regarding program impact on student users, as well as a single statement regarding the

[1] For this question and the remainder of the questionnaire, a maximum of six participants provided responses.

alignment of the program with state standards. Respondents were in greatest agreement with the latter, with five of six agreeing that the program's academic content was aligned to Georgia standards. A majority of respondents also agreed that Progress Learning improved their students' level of standards mastery in Algebra I and that it was easy to individualize student learning within the curriculum. While none of the respondents disagreed on whether the program increased students' level of achievement on standardized assessment, half selected "neither disagree nor agree" to this query. Finally, five of six respondents appeared ambivalent as to whether Progress Learning had increased student engagement in their classroom.

When asked to rate how effectively Progress Learning addressed several student outcomes, four of six respondents indicated that the curriculum was very effective in the following areas:

- Numerical reasoning
- Functions and Graphical Reasoning
- Data and Statistical Reasoning

Additionally, three of six respondents also found the curriculum to be very effective in areas of Patterns, Operations and Algebraic Reasoning, and Geometric and Spatial Reasoning. Progress Learning was found to be at least moderately effective in all areas by all respondents apart from one teacher who rated both Functions and Graphical Reasoning and Geometric and Spatial Reasoning as slightly effective.

Program Attitudes

Teachers were asked to identify strengths and weaknesses of Progress Learning. Teachers had different experiences with the curriculum, depending upon their school, support network, and personal motivation to implement the program with fidelity. Naturally, the question, "What do you like best about Progress Learning? Least?" invites responses with wide-ranging criticism and praise for the program, some of which are highly individual and anecdotal. The following section presents the responses from this small sample of teachers.

When asked what they liked best about the Progress Learning program, teachers identified the following three program strengths:

1. The ability to create assessments with questions aligned to the state test.
2. The types and variety of questions provided.
3. The explanations for "missed" questions that were included as part of the program.

When asked what they liked least about the program, some survey participants indicated that they preferred a previously used review game for their students. One teacher stated that she liked the Progress Learning program but that, “based on other things we have in place in our system it is difficult to implement,” and another who said, “it was a struggle to get my students to utilize and for my students to benefit from learning.” Finally, teachers were asked what recommendations they had for improving Progress Learning. Two respondents indicated that they preferred to resume use of another program while another suggested that there was a need for Progress Learning to, “work with the school system to show how other aspects of the program could be beneficial for everyday use especially remediation and individualized learning.”

Discussion

The current study was a retrospective mixed-methods quasi-experimental design (QED) study to determine the effects of Progress Learning on Grades 6-8 mathematics and ELA achievement by comparison growth on the Georgia Milestones Mathematics and ELA assessments of students who received Progress Learning services, in relation to students that did not receive Progress Learning. Supplementary analyses examining the associations between Progress Learning usage metrics and achievement gains are also performed in this study. In addition, we report on questionnaire findings from eight teachers who volunteered to respond. This questionnaire focused on Algebra I teacher implementation and perceptions of Progress Learning in their classrooms.

The results of the main impact analyses showed a positive and statistically significant impact of Progress Learning on student mathematics achievement, with treatment students outgaining comparison students by more than 4 points. The results of the main ELA impact analysis showed a directionally positive, though not statistically significant, impact on ELA achievement, with treatment students outgaining comparison students by more than 3 points. Effect sizes of these analyses ranged between .06 to .09 SDs, indicating small, though practically meaningful, program impacts of Progress Learning on student achievement, especially in mathematics. On the basis of this study’s methodology, along with the above results, we believe that this evidence meets inclusion criteria for ESSA Tier 2 and What Works Clearinghouse (WWC) *Meets Standards With Reservations* designations.

Usage analyses showed significant positive associations between student-level Progress Learning usage metrics and achievement gains. Correlations between average Progress Learning activity scores and achievement gains were of particular note, with observed correlations of magnitude above .4 in ELA and above .6 in mathematics. This gives preliminary evidence supporting modest to moderate predictive validity of Progress Learning activity scores in relation to Georgia Milestones scores. These associations remained significant and positive when controlling for prior achievement and demographics, using HLMs similar to those used in the main impact analyses.

Algebra teacher perceptions of Progress Learning were generally positive, with the majority of teachers reporting that they felt prepared to implement the program with their students. Most teachers agreed that Progress Learning improved their students' level of standards mastery in Algebra I, and they also agreed that it was easy to individualize student learning within the program's curriculum. Agreement was somewhat lower regarding whether the program increased students' level of achievement on standardized assessment, and most respondents were undecided on whether Progress Learning had increased student engagement in the classroom. Most respondents indicated that the program was very effective for instruction in the areas of numerical reasoning, functions and graphical reasoning, and data and statistical reasoning. This is notable considering that teachers reported that they and their students used most program features relatively infrequently, not more than once a week. Finally, while some teachers liked features of Progress Learning, including the types and variety of questions included in the program, others expressed a preference for a previously-used program.

When considering the results of this evaluation, some important limitations should be noted. The teacher questionnaire response rate was quite low at only 40%, despite repeated efforts to engage teachers with the questionnaire. Thus, conclusions from questionnaire analyses should be interpreted with considerable caution. Related to this, Algebra I was originally intended to be a focus of this study, as requested by Progress Learning. However, we were only able to obtain data from a small number of Algebra I classrooms (less than 10 across both conditions); thus, this focus was not examined quantitatively, outside of supplementary descriptive analyses. In addition, this study included only one school district; because of this, results may not generalize to other contexts or student populations. Further evaluation is encouraged in additional school districts and/or contexts to continue to examine Progress Learning's impact on mathematics and ELA achievement.

The key results and conclusions of this evaluation are as follows:

- Progress Learning had a significant positive impact on Georgia Milestones Mathematics scores, with treatment students outgaining comparison students by more than 4 points.
- Progress Learning had a directionally positive impact on Georgia Milestones ELA scores, with treatment students outgaining comparison students by more than 3 points.
- Progress Learning students completed eight Mathematics assignments and 8.5 ELA assignments, on average. Activity scores averaged between 60-65%.
- Counts of Progress Learning activities and average activity score were both significantly positively associated with Georgia Milestones Mathematics and ELA scores.
- Algebra I teachers generally held positive perceptions of Progress Learning, with teachers holding the most positive perceptions of their preparedness to implement the program, along with Progress Learning's ability to improve

students' level of standards mastery. Teachers also liked the ability of Progress Learning to individualize instruction.

Appendix A: Teacher Questionnaire

Did you implement Progress Learning in your Algebra I classes during the 2022-2023 school year?

No

Yes

Skip To: End of Survey If Did you implement Progress Learning in your Algebra I classes during the 2022-2023 school year? = No

How many years have you been teaching Algebra I?

1-3

4-6

7-10

11+

In which grade(s) did you teach Algebra I during the 2022-2023 school year?

8th

9th

10th

Other (Please list) ____

Do you have any experience with other supplemental state standards-aligned resources?

No

Yes

Display This Question:

If Do you have any experience with other supplemental state standards-aligned resources? = Yes

What other supplemental state standards-aligned resources have you used?

____

In what way(s) did you receive training on how to use Progress Learning? Check all that apply.

Live webinars
In-person training
Training videos
Help Center
Customer Support
Other (please describe)

____

Use the scale to indicate your response to the following question.

	Unprepared	Somewhat unprepared	Neither prepared nor unprepared	Somewhat prepared	Prepared
In general, after training, how prepared did you feel to implement Progress Learning?	O	O	O	O	O

Use the scale to indicate your level of agreement with the following statements.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Progress Learning improves my students' level of standards-mastery in Algebra I.	O	O	O	O	O
Progress Learning increases my students' level of achievement on standardized assessments.	O	O	O	O	O
Progress Learning increases student engagement.	O	O	O	O	O
It is easy to individualize student learning with Progress Learning.	O	O	O	O	O
Academic content in Progress Learning is aligned to my state standards.	O	O	O	O	O

How effectively does Progress Learning address the following student outcomes?

	Not effective at all	Slightly effective	Moderately effective	Very effective	Extremely effective
Numerical Reasoning	O	O	O	O	O
Functions and Graphical Reasoning	O	O	O	O	O
Patterns, Operations, and Algebraic Reasoning	O	O	O	O	O
Geometric and Spatial Reasoning	O	O	O	O	O
Data and Statistical Reasoning	O	O	O	O	O

Please rate your frequency of use of the following Progress Learning features.

	Never	Rarely (about once a month)	Sometimes (about once a week)	Often (2-3 times per week)	Very Often (daily)	Not sure/Non-applicable
Assessments	O	O	O	O	O	O
Assignments	O	O	O	O	O	O
Quick Click Remediation	O	O	O	O	O	O
Instructional Resources (bellringer, videos, worksheets)	O	O	O	O	O	O
Progress Reports	O	O	O	O	O	O
Item Analysis	O	O	O	O	O	O

Please rate your students' frequency of use of the following Progress Learning features.

	Never	Rarely (about once a month)	Sometimes (about once a week)	Often (2-3 times per week)	Very Often (daily)	Not sure/Non-applicable
Student Study Plan	O	O	O	O	O	O
Student Arcade Games	O	O	O	O	O	O

What do you like best about Progress Learning?

____

What do you like least?

____

What recommendations do you have for improving Progress Learning?

____

Appendix B: Baseline Equivalence and Attrition Tables

Table B1

Baseline Equivalence, Spring 2022 Georgia Milestones Mathematics, by Grade and Overall (Unadjusted)

	Overall Mean	PL Mean (SD)	Control Mean (SD)	Adjusted T v C Difference	Pooled Unadjusted SD	Stan. Mean Diff.
Grade 6	495.85	507.37 (49.78)	498.17 (54.36)	34.88	51.69	0.67
Grade 7	499.29	512.23 (50.36)	492.39 (41.28)	24.57	44.65	0.55
Grade 8	503.63	497.00 (35.57)	492.15 (40.23)	20.02	36.43	0.55
All students	499.58	503.75 (44.57)	494.13 (45.61)	20.12	45.02	0.45

Table B2

Baseline Equivalence, Spring 2022 Georgia Milestones ELA, by Grade and Overall (Unadjusted)

	Overall Mean	PL Mean (SD)	Control Mean (SD)	Adjusted T v C Difference	Pooled Unadjusted SD	Stan. Mean Diff.
Grade 6	517.27	516.74 (47.71)	517.63 (52.10)	11.03	50.38	0.22
Grade 7	517.62	524.11 (62.45)	512.76 (60.13)	26.75	61.14	0.44
Grade 8	508.33	511.39 (46.24)	504.19 (47.08)	20.17	0.43	0.55
All students	514.21	516.58 (52.12)	512.09 (53.98)	15.16	53.11	0.29

Table B3

Baseline Equivalence, Spring 2022 Georgia Milestones Mathematics, by Grade and Overall (Adjusted)

	Overall Mean	PL Mean (SD)	Control Mean (SD)	Adjusted T v C Difference	Pooled Unadjusted SD	Stan. Mean Diff.
Grade 6	510.23	507.37 (49.78)	507.37 (57.71)	-5.96	53.15	-0.11
Grade 7	504.57	512.23 (50.36)	501.40 (44.08)	10.83	46.36	0.23
Grade 8	498.04	497.00 (35.57)	500.61 (43.36)	-3.61	37.56	-0.10
All students	504.39	503.75 (44.57)	505.04 (48.99)	-1.29	46.54	-0.03

Table B4

Baseline Equivalence, Spring 2022 Georgia Milestones ELA, by Grade and Overall (Adjusted)

	Overall Mean	PL Mean (SD)	Control Mean (SD)	Adjusted T v C Difference	Pooled Unadjusted SD	Stan. Mean Diff.
Grade 6	520.22	516.74 (47.71)	522.87 (50.27)	-6.13	49.26	-0.12
Grade 7	520.76	524.11 (62.45)	517.96 (58.49)	6.89	60.22	0.11
Grade 8	509.97	511.39 (46.24)	507.84 (45.98)	6.59	46.13	.014
All students	516.71	516.58 (52.12)	516.84 (52.50)	-0.27	52.32	-0.01

Appendix C: Descriptive Achievement Tables

Table C1

Georgia Milestones Mathematics Scores, by Condition and Time

Group	Spring 2022	Spring 2023	*N*
Grade 6			
Treatment	507.37	50.324	811
Comparison	513.33	503.87	577
Grade 7			
Treatment	512.23	516.33	509
Comparison	501.40	507.87	954
Grade 8			
Treatment	497.00	499.96	1,091
Comparison	505.04	504.78	338
All Students			
Treatment	503.75	504.50	2,441
Comparison	505.04	504.78	1,869

Table C2

Georgia Milestones ELA Scores, by Condition and Time

Group	Spring 2022	Spring 2023	*N*
Grade 6			
Treatment	516.74	513.68	555
Comparison	517.63	510.28	8223
Grade 7			
Treatment	524.11	521.95	589
Comparison	512.76	510.73	787
Grade 8			
Treatment	511.39	527.46	872
Comparison	504.19	517.21	642
All Students			
Treatment	516.58	522.06	2,016
Comparison	512.09	512.41	2,252

Table C3

Georgia Milestones Mathematics Scores (Algebra I Students), by Condition and Time

Group	Spring 2022	Spring 2023	*N*

Treatment	587.14	590.17	125
Comparison	568.98	564.98	50

Appendix D: Subgroup Regression Analyses

Table D1

Georgia Milestones Mathematics Regression Results With SPED Interaction

	Estimate	Standard Error	*p* value
Progress Learning	4.206	4.231	.070
PL*SPED	-0.509	3.178	.873
SPED	-6.805*	2.626	.010
Constant	498.107***	1.574	<.001

Note. * $p < .05$; *** $p < .001$.

Table D2

Georgia Milestones Mathematics Regression Results With Gender Interaction

	Estimate	Standard Error	*p* value
Progress Learning	1.707	2.077	.411
PL*Gender	5.059***	1.420	<.001
Gender	-4.049***	1.141	<.001
Constant	498.045***	1.452	<.001

Note. *** $p < .001$.

Table D3

Georgia Milestones Mathematics Regression Results With ELL Interaction

	Estimate	Standard Error	*p* value
Progress Learning	4.235*	2.061	.040
PL*ELL	-1.943	3.453	.574
ELL	-4.643	2.694	.080
Constant	498.115***	1.482	<.001

Note. * $p < .05$; *** $p < .001$.

Table D4

Georgia Milestones Mathematics Regression Results With Grade-level Interaction

	Estimate	Standard Error	*p* value
PL (Grade 8)	6.148*	3.080	.046
PL*Grade 6	-0.922	4.508	.838
PL*Grade 7	-4.550	3.820	.234
Grade 6	-3.696	2.730	.176
Grade 7	9.604***	1.922	<.001

Constant	497.732***	1.490	<.001

Note. * p < 05; *** p < .001.

Table D5

Georgia Milestones Mathematics Regression Results With Race and Ethnicity Interactions

	Estimate	Standard Error	*p* value
Progress Learning	-0.137	2.666	.996
PL*Hispanic	4.527	2.387	.058
PL*Black	5.635*	2.226	.011
Hispanic	-6.057**	1.809	.001
Black	-8.313***	1.633	<.001
Constant	498.180***	1.433	<.001

*Note. * p < 05; ** p < .01;* *** p < .001.

Table D6

Georgia Milestones ELA Regression Results With SPED Interaction

	Estimate	Standard Error	*p* value
Progress Learning	2.811	2.294	.220
PL*SPED	4.005	3.951	.311
SPED	-14.040***	2.830	<.001
Constant	515.135***	1.532	<.001

Note. *** p < .001.

Table D7

Georgia Milestones ELA Regression Results With Gender Interaction

	Estimate	Standard Error	*p* value
Progress Learning	4.099	2.260	.069
PL*Gender	-1.576	1.970	.404
Gender	5.479***	1.059	<.001
Constant	515.042***	1.532	<.001

Note. *** p < .001.

Table D8

Georgia Milestones ELA Regression Results With ELL Interaction

	Estimate	Standard Error	*p* value
Progress Learning	3.439	2.151	.110

PL*ELL	-2.001	4.847	.680
ELL	-6.799	4.132	.100
Constant	515.016***	1.519	<.001

Note. *** *p* < .001.

Table D9

Georgia Milestones ELA Regression Results With Grade-level Interaction

	Estimate	Standard Error	*p* value
PL (Grade 8)	4.198	2.265	.064
PL*Grade 6	-0.899	4.735	.849
PL*Grade 7	-1.645	3.246	.612
Grade 6	-17.055***	2.909	<.001
Grade 7	-13.079***	1.947	<.001
Constant	515.959***	1.476	<.001

Note. *** *p* < .001.

Table D10

Georgia Milestones ELA Regression Results With Race and Ethnicity Interactions

	Estimate	Standard Error	*p* value
Progress Learning	4.086	3.068	.183
PL*Hispanic	-2.300	3.223	.475
PL*Black	-0.395	2.803	.888
Hispanic	-0.967	2.449	.693
Black	-3.160	2.182	.148
Constant	515.022***	1.514	<.001

Note. *** *p* < .001.