The 2020-21 Future Forward Literacy Program: Implementation and Impact during the COVID-19 Pandemic

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Abstract

Future Forward is an early elementary literacy program that integrates one-on-one tutoring with family engagement to support literacy skill-building and the social development of students. In the 2020-21 school year, as part of an Education Innovation and Research (EIR) Mid-Phase grant, the impact of Future Forward on reading achievement was tested with a randomized control study of students in nine schools. Although not statistically significant, the overall impact of Future Forward was estimated at between 0.09 and 0.10 standard deviations, depending on model specifications. A smaller number of schools and implementation challenges, both resulting from COVID-19, hindered our ability to measure the impact of Future Forward. Even considering the reduced power of the study and implementation challenges, we found strong evidence that Future Forward had a positive impact on underserved students facing more challenges learning to read. Future Forward had roughly three times the impact on Black students (0.34 standard deviations, $p = .095$) and five times the impact on Black male students (0.54 standard deviation, $p = .052$) than the overall impact. Black male students with more developed reading skills benefitted even more from their participation in Future Forward (0.74 standard deviations, $p < .001$).

The 2020-21 Future Forward Literacy Program: Implementation and Impact during the COVID-19 Pandemic

Future Forward is an early elementary literacy program, administered by Education Analytics (EA), that combines one-on-one tutoring with parent engagement to promote student literacy development both at school and at home. In 2011 Future Forward was funded by a development i3 grant to develop the program and test its impact in Milwaukee. Two randomized control trial (RCT) studies found the program had positive impacts on literacy, reading achievement, and school attendance (Jones, 2018; Jones & Christian 2020). In 2017, EA received an Education Innovation and Research (EIR) Mid-Phase grant from the U.S. Department of Education to expand Future Forward and test its impact on students in 14 schools across three states.

The Future Forward Approach

Future Forward employs a school, community, family partnership approach (Epstein, 2001) to promote student literacy development. A site manager, a family engagement (FE) coordinator, and tutors staff each Future Forward site. The site manager is typically a certified teacher who manages personalized one-on-one tutoring provided by paraprofessionals or volunteers. The site manager works with the school and tutors to develop a tutoring schedule. This involves identifying times students can be pulled out of class to receive tutoring and finding tutors who can work during those times. Students are tutored by the same tutor throughout their time in Future Forward. The site manager provides ongoing support, development, and supervision to the tutors. Each Future Forward student is scheduled for 90 minutes of tutoring each week for one school year.

The site manager also works closely with the FE coordinator, who is typically a community member or parent from the school. The FE coordinator is responsible for family outreach and communication. These typically involve monthly family events and ongoing contacts through in-person meetings, phone call conversations, or email or text conversations. A fuller description of the Future Forward program model has been published elsewhere (Jones & Christian, 2020).

During COVID-19, tutoring was modified to be more flexible to the unique needs of families and schools. EA offered sites the option of tutoring students online or in person. Sites that chose the virtual Future Forward option changed their scheduling to accommodate some of the challenges of virtual tutoring. Historically, each Future Forward tutoring session was scheduled for 30

minutes. However, virtual tutoring proved more time consuming to facilitate. As such, sites using virtual tutoring scheduled two 45 minute sessions each week instead of three 30 minutes sessions. Regardless of the format, all students were provided access to the myON online reading platform provided by Renaissance Learning.[1] MyON provided sites and parents additional flexibility for engaging students in reading during COVID-19.

Previous Future Forward Research/Evaluations

The current impact study is the fifth of Future Forward (Table 1). The first RCT study, as part of an i3 grant, was a pilot evaluation as the program was developed in six Milwaukee Public Schools (MPS) campuses during the 2011-12 and 2012-13 school years. While Future Forward had a small but significant impact on reading, it did not impact school attendance. Almost all Future Forward students received a high or moderate amount of tutoring, whereas the FE component was still in development (Jones, 2018).

The second i3-funded RCT study tested the impact of the full Future Forward program on students in seven MPS campuses during the 2013-14 and 2014-15 school years. Implementation was strong, with 96% and 98% of students receiving the intended amount of tutoring and FE respectively. This study found positive and statistically significant impacts on literacy development and school attendance (Jones & Christian, 2021). While no significant impact on reading achievement was found after two years or tutoring, the impact after one year, with a much larger sample, was statistically significant and positive. Further, in a five-year follow-up study, Future Forward was found to have a significant sustained impact, equal to approximately one-half year of academic growth, on reading achievement (Jones, et. al, 2021). Further, former Future Forward participants were less likely (30% the odds) to be receiving special education services than students assigned to Business-as-Usual (BAU) literacy instruction.

Funded by an EIR grant, the third study of Future Forward used a regression discontinuity (RD) design to measure its impact on student literacy as it was expanded to 14 schools during the first full year of the grant in the 2018-19 school year (Jones et al., 2020).[2] Although this study did not find a statistically significant positive impact, low statistical power and low fidelity of implementation limited the study's ability to measure an impact.

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[1] https://www.myon.com/index.html
[2] Two schools did not participate in the evaluation.

The fourth study used a RCT to examine its impact on reading, social emotional learning (SEL), and school attendance during the 2019-20 school year (Jones & Li, 2021). The nation-wide shut-down of schools in spring of 2020 because of the COVID-19 pandemic limited the study to only testing its impact on school attendance. Future Forward was found to have a statistically significant, positive impact. Future Forward participants demonstrated an improved attendance rate of 1.3 percentage points as compared to students who received BAU literacy instruction. Further, its impact was greater with Black male students.

Table 1: Previous research and evaluations of Future Forward

	Period	Design	Analytic Sample	Outcomes	Impact estimate
Jones, 2018	2011-13	RCT	251 FF participants 245 BAU students	Reading achievement Days absent	0.12* -3.33
Jones & Christian, 2021	2013-15	RCT	286 FF participants 290 BAU students	Literacy Days absent Reading achievement	0.23* -4.53* 0.10*
Jones et al., 2020	2018-19	RD	121 FF participants 141 BAU students	Literacy	0.16
Jones & Li, 2021	2019-20	RCT	281 FF participants 286 BAU students	Attendance rate	1.3%*

Notes: Reading and literacy estimates were standardized.
* Statistically significant impact

Current Study of Future Forward

In the current evaluation, we examine the implementation and impact of the 2020-21 Future Forward program on students in nine schools. While all nine participating schools reopened and offered in-person instruction, implementation of Future Forward was modified to accommodate a variety of restrictions put in place by schools because of COVID-19. So while in the current study we originally planned to test the implementation and impact of Future Forward, the changes to the Future Forward model of delivery caused us to reframe our evaluation to be exploratory.

Research Questions

How was Future Forward implemented in schools during COVID-19?

What was the impact of Future Forward participation on reading achievement?

Did Future Forward have a differential impact on student subgroups?

Evaluation Methods

This evaluation study utilized an RCT design, with kindergarten, first grade, second grade, and third grade (K-3) students randomly assigned to receive Future Forward or only BAU literacy instruction during the 2020-21 school year.

Study Eligibility

Eligible participants were kindergarten, first, second, or third grade students without an Individualized Education Plan (IEP) and were not an English Learner. The specific numbers of students who were eligible is not known because schools were instructed not to distribute consent forms to students who did not meet eligibility criteria. Those later referred for specialized services after assignment were excluded from analyses.

Informed consent was obtained from parents for their students to participate in the study in the fall of 2020. Four hundred sixty four students were consented for the study. Only students who participated in a fall reading assessment were eligible. This last eligibility criteria represented a significant barrier for students participating in the study. Of the 464 consented students, 297 completed a fall reading assessment and were enrolled in the study.

Random Assignment

In the fall of 2020, 153 of the 297 students were randomly assigned to the Future Forward participant group and 144 to the BAU group. Assignment was done within blocks, defined as grade levels within schools (each grade within a school is a block). Three schools serve kindergarten through second grade students, two schools serve first through third grade students, one school serves first and second grade students, and one school only serves first grade students, resulting in 26 assignment blocks (Table 2). The number of study participants within each block was twice the capacity of the program to serve with half randomly assigned to Future

Forward and the other to BAU literacy instruction. The number of study participants per block ranged from 7 to 22, with an average of 11.[3]

Participating schools and students

Nine schools participated in the study (Table 2): four in Wisconsin, three in Alabama[4], and two in South Carolina. These schools partnered with five local Boys & Girls Clubs. Three schools are located in urban and six in rural districts. Participating schools had a history of overall literacy performance that placed them in the lowest 20% of schools in their state or had a history of large reading achievement gaps between races or economic groups. Five schools who had previously participated in the EIR grant study were unable to participate in the current study. Obtaining parent consent in these schools proved extremely difficult. The limited number of students consented were not enough to include these schools in the study.

Table 2: Participating schools

	State	Community Type	Grades of Participating Students (26 grades/blocks)
School 1	WI	Rural	Grades KG-2
School 2	WI	Rural	Grades KG-2
School 3	SC	Rural	Grades 1-3
School 4	AL	Urban	Grades KG-3
School 5	WI	Rural	Grades 1-2
School 6	WI	Rural	Grades KG-2
School 7	AL	Urban	Grades KG-3
School 8	SC	Rural	Grades 1-3
School 9	AL	Urban	Grade 1

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[3] Assuming a fixed program effect and 70% of the variance in outcomes explained by covariates, the current study, prior to attrition, had an 80% likelihood of detecting an impact of 0.187 standardized units.
[4] One Alabama school (school 9, Table 3) included only students who were Boys and Girls Club members.

Table 3 presents characteristics of study participants. The BAU and Future Forward groups were equivalent. Among all the student participants, Most were in first (38%) or second grade (30%), were economically disadvantaged (67%), and White (58%) or Black (32%).

Table 3: Characteristics of study participants

		BAU	FF	Total
Grade Level	KG	26 (18.1%)	26 (17.0%)	52 (17.5%)
	1st	54 (37.5%)	58 (37.9%)	112 (37.7%)
	2nd	42 (29.2%)	46 (30.1%)	88 (29.6%)
	3rd	22 (15.3%)	23 (15.0%)	45 (15.2%)
School	School 1	11 (7.6%)	14 (9.2%)	25 (8.4%)
	School 2	19 (13.2%)	16 (10.5%)	35 (11.8%)
	School 3	13 (9.0%)	16 (10.5%)	29 (9.8%)
	School 4	21 (14.6%)	21 (13.7%)	42 (14.1%)
	School 5	21 (14.6%)	20 (13.1%)	41 (13.8%)
	School 6	21 (14.6%)	21 (13.7%)	42 (14.1%)
	School 7	24 (16.7%)	25 (16.3%)	49 (16.5%)
	School 8	11 (7.6%)	17 (11.1%)	28 (9.4%)
	School 9	3 (2.1%)	3 (2.0%)	6 (2.0%)
Race/ Ethnicity	Black	43 (29.9%)	52 (34.0%)	95 (32.0%)
	White	85 (29.9%)	87 (34.0%)	172 (57.9%)
	Other	16 (11.1%)	14 (9.2%)	30 (10.1%)
Gender	Female	72 (50%)	90 (58.8%)	162 (54.5%)
	Male	72 (50%)	63 (41.2%)	135 (45.5%)
Total		144	153	297
F/R Lunch	No	49 (34.3%)	49 (32.2%)	98 (33.2%)
	Yes	94 (65.7%)	103 (67.8%)	197 (66.8%)
Total		143	152	295*

Note: * F/R lunch data were missing for two students.

Instruments

Seven schools used the Star assessment for early literary. Star is a short, online adaptive assessment with have high internal reliability (0.95) and concurrent validity with other reading assessments such as AIMSweb, the Iowa Test of Basic Skills, and state reading tests more generally (Renaissance Learning, 2021).

Two used the Formative Assessment System for Teachers (FAST) - FastBridge. The FastBridge reading assessment, used by two schools, is a norm-referenced assessment with strong evidence of validity and reliability (Christ & Colleagues, 2015).

Modeling Strategy

We used generalized linear models (GLM), which uses maximum likelihood estimation, with linear error terms and an identity link function to estimate the impact of Future Forward on reading achievement. Both baseline and follow-up reading scores were standardized within grade levels. The IBM SPSS 26.0 statistical software package was used to conduct analyses.

Spring reading achievement was modeled using the following linear regression equation (1)

$$Y_{ij} = \beta_0 + \beta_1\left(FF_{ij}\right) + \beta_{2a}(Star_{ij}) + \beta_{2b}(FAST_{ij})$$
$$+ \sum_{m=1}^{M} \beta_{3.m} X_{mij} + \sum_{j=1}^{J-1} \beta_{4.j} Block_j + \varepsilon_{ij}$$

Where Y_{ij} is the spring reading score for the ith student in the jth block; β_0 is the intercept; β_1 is the impact of Future Forward; FF_{ij} is a binary indicator for Future Forward participation; β_2 is the effects of baseline reading scores for each assessment used; $\beta_{3.m}$ is the effects of student covariates; X_{mij} is the mth of M additional covariates representing demographic characteristics of student i in block j (e.g. gender, free/reduced lunch, and race); $\beta_{4.j}$ is the effect of block (i.e., the difference in the intercept between block j and the reference block); All Future Forward and BAU students within a block received the same literacy assessment (Star or FAST) ; and ε_{ij} is the error term for student i in block j.

We used robust standard errors and fixed block effects (blocks are defined by grade levels within schools). We used fixed block effects rather than random effects to control for any unobserved

block-specific factors. We also conducted a robustness check of the results. For this we stripped out all model parameters except block fixed effects and participation in Future Forward.

Attrition and Characteristics of Students Included in the Final Analysis

Of the 297 study participants, 267 remained at the end of the study. Nine students were referred for specialized services (five BAU and four Future Forward students), and excluded from the study. Twenty-one of the remaining 288 students attrited (7.3%). These included three students who did not complete the spring assessment and 18 who moved and changed schools. In total, seven BAU (7/139 = 5.0%) and 14 Future Forward (14/149 = 9.4%) students attrited. The combination of overall (7.3%) and differential attrition (4.4%) is within the conservative levels of acceptability as established by the What Works Clearinghouse (2020).

Table 4 presents characteristics of students included in the final analysis (after attrition). BAU and Future Forward groups were equivalent after attrition. However, nine students (one Future Forward and eight BAU) received tier II intervention during the academic year. Although schools were instructed to provide any intervention services regardless of assignment, one school treated Future Forward as a tier II intervention and focused their intervention resources more on BAU students. This may have affected our ability to measure impact in that school.

Table 4: Characteristics of students included in the final analysis (after attrition)
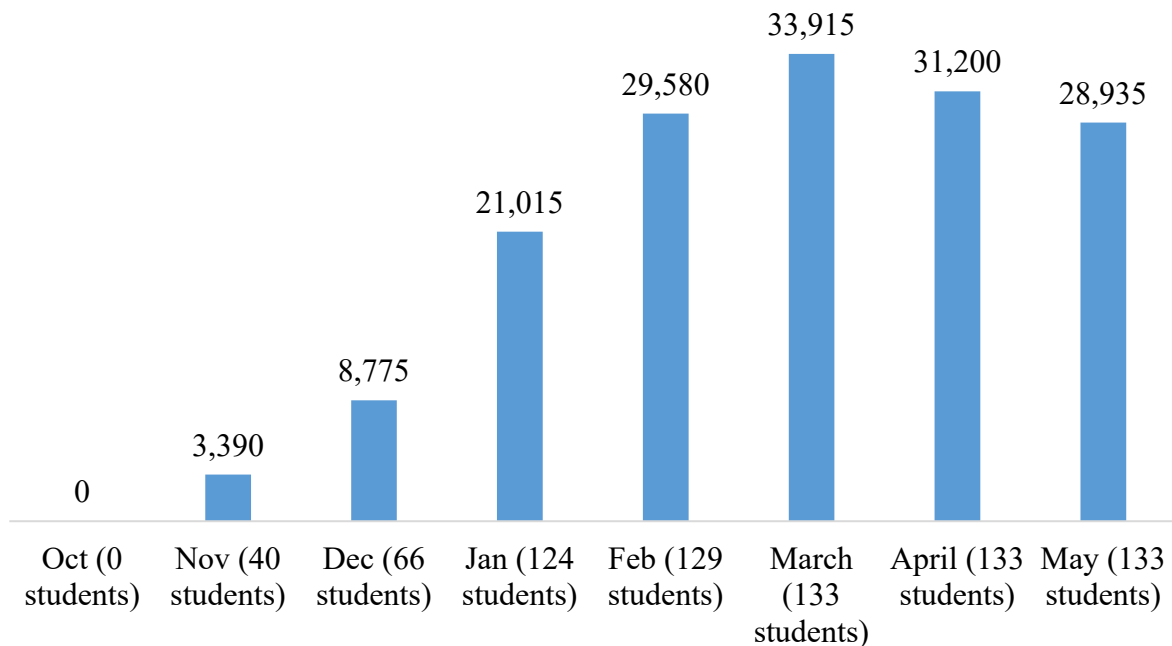
		BAU	FF	Total
Grade Level	KG	25 (18.9%)	26 (19.3%)	51 (19.1%)
	1st	50 (37.9%)	50 (37.0%)	100 (37.5%)
	2nd	40 (30.3%)	38 (28.1%)	78 (29.2%)
	3rd	17 (12.9%)	21 (15.6%)	38 (14.2%)
School	School 1	11 (8.3%)	14 (10.4%)	25 (9.4%)
	School 2	19 (14.4%)	16 (11.9%)	35 (13.1%)
	School 3	11 (8.3%)	12 (8.9%)	23 (8.6%)
	School 4	19 (14.4%)	19 (14.1%)	38 (14.2%)
	School 5	20 (15.2%)	16 (11.9%)	36 (13.5%)
	School 6	19 (14.4%)	20 (14.8%)	39 (14.6%)
	School 7	19 (14.4%)	23 (17.0%)	42 (15.7%)
	School 8	11 (8.3%)	13 (9.6%)	24 (9.0%)
	School 9	3 (2.3%)	2 (1.5%)	5 (1.9%)
Race/ Ethnicity	Black	39 (29.5%)	41 (30.4%)	80 (30.0%)
	White	80 (60.6%)	81 (60.0%)	161 (60.3%)
	Other	13 (9.8%)	13 (9.6%)	26 (9.7%)
Gender	Female	69 (52.3%)	78 (57.8%)	147 (55.1%)
	Male	63 (47.7%)	57 (42.2%)	120 (44.9%)
F/R Lunch	No	44 (33.3%)	46 (34.1%)	90 (33.7%)
	Yes	88 (66.7%)	89 (65.9%)	177 (66.3%)
Total		132	135	267

Future Forward Implementation Results

To what extent was tutoring implemented as intended in spite of the disruption caused by COVID 19?

Future Forward expected to support students from October to May. As mentioned before though, difficulties in consenting and assessing students in the milieu of COVID pushed the start date for sites much further into the school year. Ultimately, two sites started working with students in November, three in December, and four in January. The delay represents a significant amount of tutoring not delivered during the fall of 2020 (Figure 1).
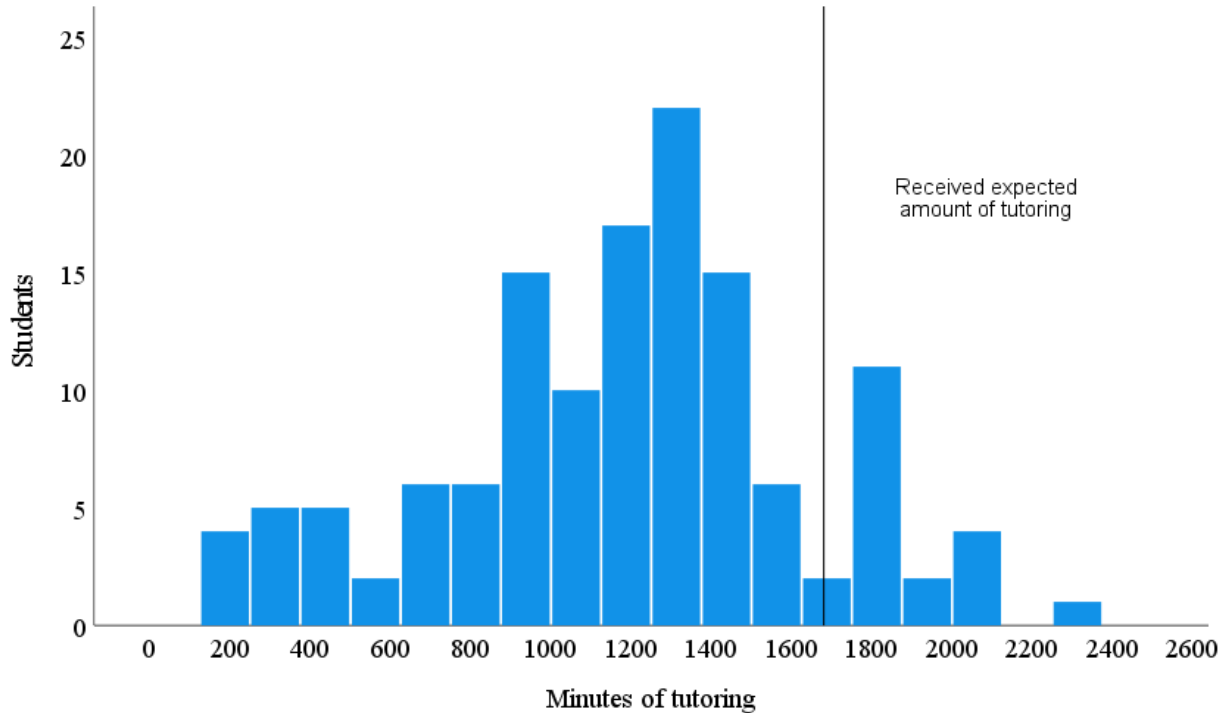
Figure 1: Total minutes of Future Forward tutoring provided each month

A Future Forward participant who starts receiving tutoring in early October and continues until late May should receive at least 1,680 minutes (60 minutes per week for 28 weeks) of tutoring. Students in sites that started in November missed approximately 240 minutes of that, which represents 14% less exposure to Future Forward. Students who started in December missed approximately 460 minutes of tutoring, representing 27% less tutoring, and students who didn't start until January missed 648 minutes, representing 39% less tutoring. The implementation

delay resulted in very few students receiving the expected amount of tutoring (> 1,680 minutes) (Figure 2).

Figure 2: Total minutes of tutoring received by Future Forward participants

Once tutoring began, many students did receive the expected intensity of tutoring. Students at four sites were scheduled to receive three tutoring sessions per week (30 minutes per session). Students at the other five were scheduled to receive two sessions per week (45 minutes per session). While historically, Future Forward provided most of its students at least 60 minutes of tutoring each week, because of COVID-related challenges it was not clear to what extent sites would be able to continue at this level of intensity. Ultimately however, more than half (54.1%) of Future Forward students received at least 60 minutes of tutoring per week. Further, the average Future Forward participant received 58 minutes of tutoring per week (Table 5).
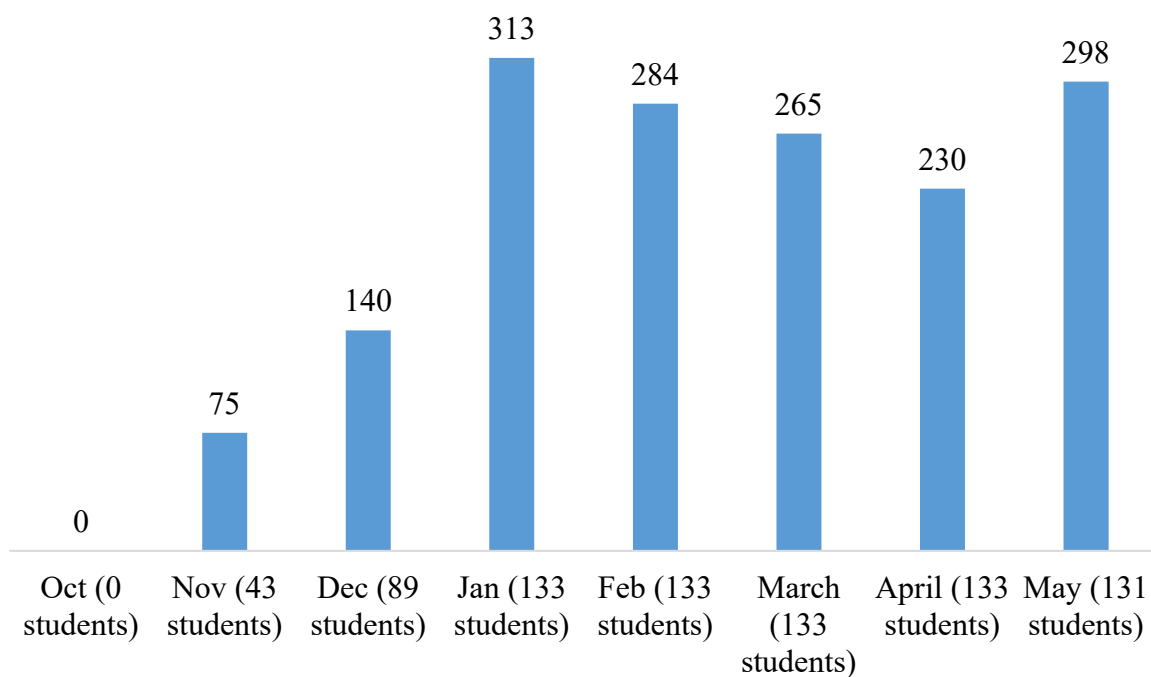
Table 5: Tutoring implementation

	First month of tutoring	Minutes per session	Average minutes of tutoring per student per five school days	FF Students
School 1	Jan	45	63.8	13
School 2	Jan	45	58.7	15
School 3	Dec	30	60.2	12
School 4	Jan	45	26.0	19
School 5	Jan	30	79.8	16
School 6	Nov	30	74.2	20
School 7	Nov	45	56.6	23
School 8	Dec	30	41.2	13
School 9	Dec	45	92.3	2
Overall		-	58	133

To what extent was family engagement implemented as intended in spite of the disruption caused by COVID 19?

FE involves substantive interactions or communications with participant family members. Successful contacts are defined as an exchange between Future Forward staff and a student's family member. Similar to tutoring, sites experienced a significant delay in their efforts to engage families, with very few family contacts occurring prior to January of 2021 (Figure 3).

Figure 3: Total successful FE contacts each month

The families of Future Forward participants are typically contacted at least two times each month. This adds up to 16 contacts during the typical program period of October to May. Again though, mostly because of the delay in starting Future Forward, only 43 (31%) student families were contacted at least that many times. (Figure 4). Once the program was ramped up in January though, families were contacted an average of twice per month and 48% were contacted at least two times each month (Table 6).

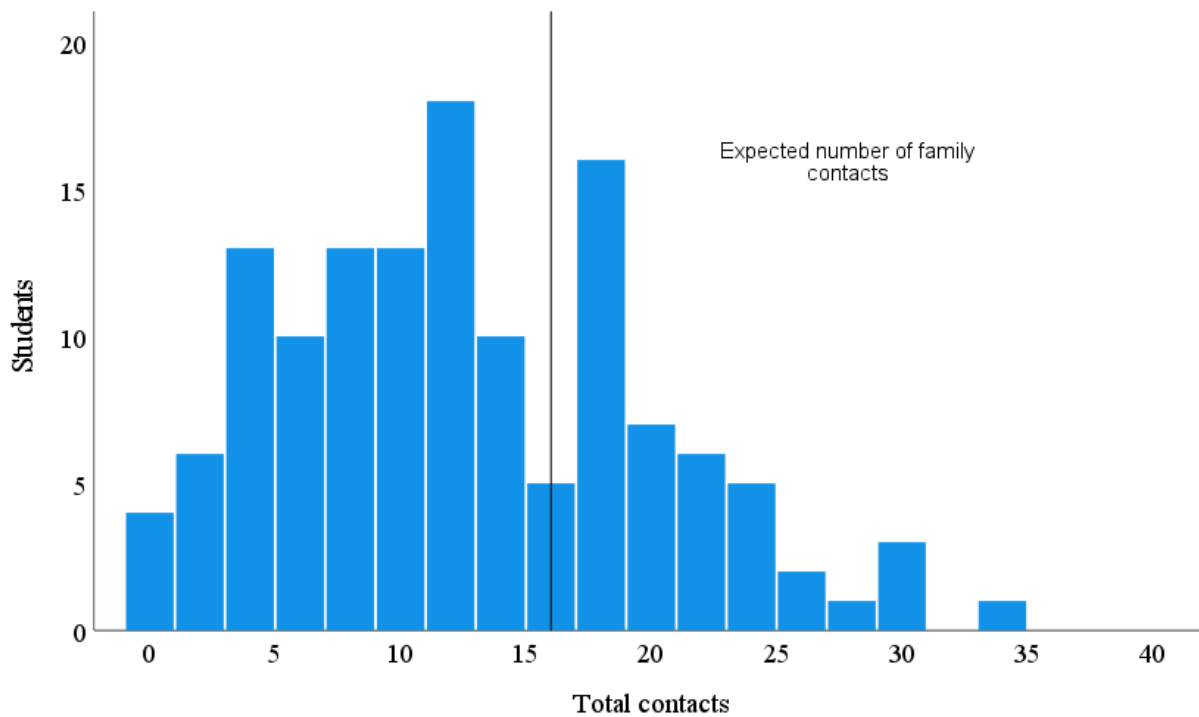Figure 4: Total successful FE contacts per Future Forward participant

Table 6: FE implementation

	Mean contacts per month per participant	Total FF Students
School 1	2.0	13
School 2	1.0	15
School 3	3.8	12
School 4	1.3	19
School 5	2.9	16
School 6	1.9	20
School 7	1.7	23
School 8	2.2	13
School 9	2.3	2
Overall	2.0	133

Impact Results

What was the impact of Future Forward participation on reading achievement?

Table 7 presents the unadjusted baseline (before participation) and follow-up (after) reading assessment results and benchmark information for students retained in the study. The reading achievement of Future Forward and BAU students were equivalent at baseline. At follow-up however, the reading achievement of Future Forward students had improved 0.16 standard deviations in comparison to BAU students. This change did not correspond to a differential improvement in the reading benchmark status of students in Future Forward.

Table 7: Reading achievement – students included in the final analysis

	At baseline (fall)				
	Standardized Reading		Reading Benchmark		
	M	*SD*	Above Benchmark	Below Benchmark	Students
BAU	0.01	1.00	48 (36.4%)	84 (63.6%)	132
FF	-0.01	0.98	50 (37.0%)	85 (63.0%)	135
Total	0.00	0.99	98 (36.7%)	169 (63.3%)	267
	At follow-up (spring)				
	Standardized Reading		Reading Benchmark		
	M	*SD*	Above Benchmark	Below Benchmark	Students
BAU	-0.07	1.01	50 (37.9%)	82 (62.1%)	132
FF	0.07	0.96	52 (38.5%)	83 (61.5%)	135
Total	0.00	0.99	102 (38.2%)	165 (61.8%)	267

Statistical modeling was used to make a more precise comparison of spring reading achievement scores between Future Forward and BAU students. After adjusting spring achievement by student characteristics, baseline achievement, and school and grade level blocks effects, Future Forward was estimated to have a 0.09 standardized impact ($\beta = 0.09$, *SE* = 0.10, *p* =.378). This impact estimate was not statistically significant (Table 8).

Table 8: Full GLM model testing the impact of Future Forward on reading achievement

Coefficient	β	Std. Error	Wald Chi-Sq.	df	p value
(Intercept)	0.302	0.537	0.316	1	0.574
Group (BAU)	-0.089	0.101	0.778	1	0.378
Gender (Male)	-0.189	0.098	3.732	1	0.053
Race/ethnicity (Black)	-0.669	0.173	15.009	1	0.000
Race/ethnicity (Neither Black nor White)	0.138	0.162	0.730	1	0.393
Free or reduced lunch status (No)	0.205	0.124	2.762	1	0.097
Standardized baseline reading	0.423	0.063	45.335	1	0.000

<div align="center">Overall Model Effects</div>

	Type III Wald Chi-Square	df	p value
(Intercept)	2.729	1	0.099
Group (FF vs. BAU)	0.778	1	0.378
Gender	3.732	1	0.053
Race/ethnicity	17.817	2	0.000
Free or reduced lunch status	2.762	1	0.097
Standardized baseline reading	45.335	1	0.000
Grade by school fixed effect	77.561	25	0.000

An additional model was fit to examine the robustness of the overall impact estimate. A simple model (Robustness model), only adjusting for fixed block effects, measured a 0.10 standardized impact ($\beta = 0.10$, $p = .401$), which was also not statistically significant (Table 9). Together, these models suggest a likely small impact of about 0.10 standard deviations.

The overall results are qualified by the low level of implementation due to COVID-19. Very few students received the amount of tutoring a Future Forward participant would typically receive. To adjust for this, we used Treat-on-Treated modelling. This approach allows us to answer the hypothetical question about what the impact would have been if students had received the expected amount of tutoring. In the context of this study, this is strictly a formative analysis. To conduct a Treat-on-Treated analysis first you model the amount of tutoring students assigned to Future Forward or BAU would be expected to receive. You then use this expected value to

estimate the impact of Future Forward on reading achievement. The Treat-on-Treated model results suggest a 0.13 standardized impact (Table 9).

Table 9: Results of models with additional specifications testing the impact of Future Forward on reading achievement

	Impact (β)	SE	p
Full model with fixed block effects	0.09	0.10	0.378
Robustness model – simple model	0.10	0.11	0.401
Full participation effect (Treat on Treated model)	0.13	0.16	0.364

Did Future Forward have a differential impact on student subgroups?

Among the subgroup main effects, only Black students were found to differentially benefit from their participation. Future Forward had three times the impact on Black students ($\beta = 0.34$, $p =.095$) than was found overall (Table 10). Further, certain Black student subgroups were especially affected by their participation. Future Forward has roughly five times the impact on Black students with reading below benchmark at baseline (0.48 standard deviations, $p = .062$) and seven times the impact on Black students with reading above benchmark ($\beta = 0.65$ standard deviations, $p <.001$), than it did across all students. Future Forward has roughly five times the impact on Black male students (0.54 standard deviations, $p = .052$) and Black male students with reading below benchmark at baseline (0.46 standard deviations, $p = .248$). The greatest impact of Future Forward was on Black students with reading above benchmark. The impact was eight times larger than the overall impact (0.74 standard deviations, $p <.001$). Together, these results suggest Future Forward had a positive impact on underserved students facing more challenges learning to read (Figure 5).
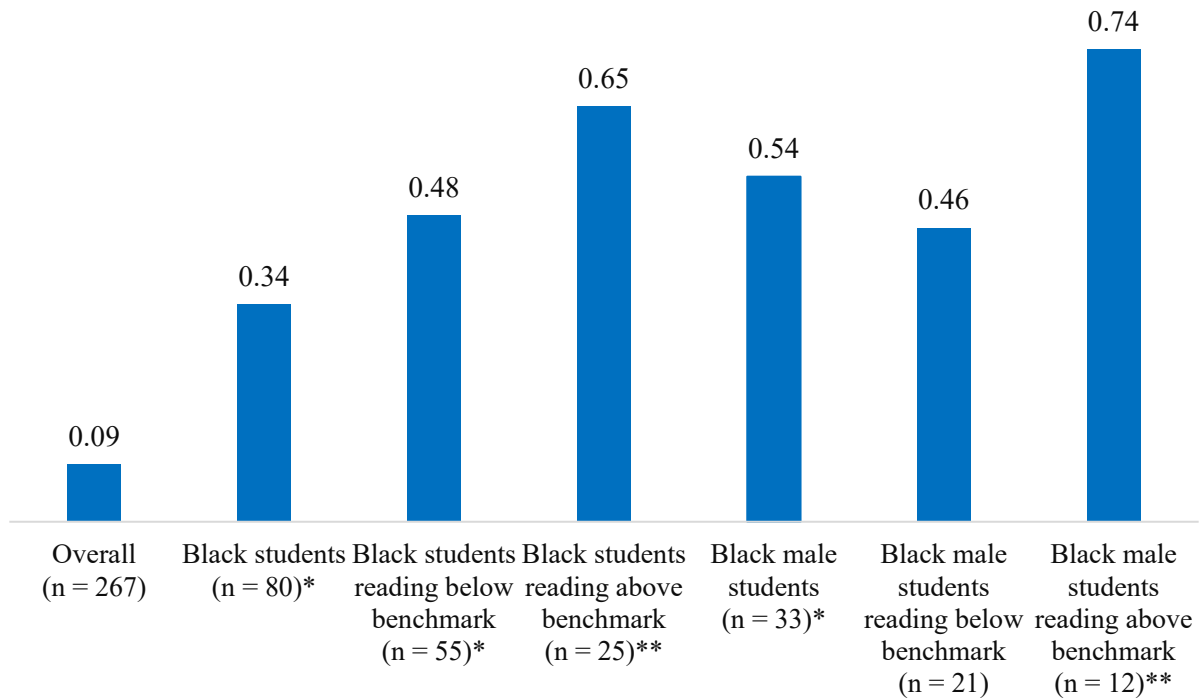
Table 8: Impact of Future Forward on reading achievement for student subgroups

	Impact (β)	SE	p	Students
Black students*	0.34	0.20	0.095	80
White students	-0.04	0.13	0.762	161
Females	-0.01	0.14	0.963	147
Males	0.09	0.13	0.474	120
Kindergarten students	-0.00	0.18	0.998	51
First grade students	0.14	0.17	0.425	100
Second grade students	-0.05	0.19	0.804	78
Third grade students	0.43	0.33	0.191	38
Reading below benchmark	0.08	0.14	0.543	169
Reading above benchmark	0.12	0.15	0.396	98
Black male students*	0.54	0.28	0.052	33
Black students reading below benchmark*	0.48	0.26	0.062	55
Black students reading above benchmark**	0.65	0.14	<.001	25
Male students reading below benchmark	-0.06	0.18	0.719	79
Male students reading above benchmark	0.15	0.17	0.376	41
Black male students reading below benchmark	0.46	0.40	0.248	21
Black male students reading above benchmark**	0.74	0.21	<.001	12

* $p < .10$

** $p < .001$

Figure 5: Standardized impact of Future Forward on reading achievement

* Impact approaches statistical significance (*p* < .10).
** Impact is statistically significant (*p* < .05)

Conclusions and Discussion

The current EIR-funded RCT study of Future Forward adds to the growing body of evidence of the effectiveness of the Future Forward program. This was a challenging year to implement any program, let alone one attached to a multisite RCT. EA decided to go forward with implementing Future Forward even considering the difficulties, motivated by an awareness that COVID-19 was causing many students to fall behind in their reading development. EA's goal was to provide as much tutoring and FE to as many students as possible. Although the disruption to schools caused by COVID-19 prevented most students from receiving the full tutoring and FE experience, the reduced amount of Future Forward students received seems to have been beneficial. We were still able to measure an overall impact of between 0.09 and 0.14 standard deviations associated with participation in Future Forward. However, the reduction in schools participating and the reduced intensity of program delivery did hinder the evaluation's ability to determine conclusively if participation in Future Forward caused this improvement.

Even considering the implementation challenges and associated reduced power of the study, we found strong evidence that Future Forward had a positive impact on Black male students. Future Forward had roughly three times the impact on Black students and five times the impact on Black male students. These results echo what we found in our 2019-20 evaluation, where Future Forward had a large positive impact on the school attendance of Black male students (Jones & Li, 2021).

Interestingly, we found the impact of Future Forward on Black male students was mostly driven by its impact on Black male students meeting the reading benchmark at the start of the study. Even though only 12 study participants (six Future Forward and six BAU) were in this group, the impact of Future Forward on them was large and highly significant ($\beta = 0.75$, $p < .001$). Black male students were universally at risk of falling below reading benchmarks but participation in Future Forward helped mitigate that risk. Of the six BAU students in this group, only one remained above reading benchmark at the end of the study. Three of six Future Forward students remained at or above the reading benchmark.

The current study's findings are consistent with the results of a follow-up study of the i3 Future Forward grant, which was comprised primarily of Black students (Jones, Reeves, Li, & Gilman, 2021). In that study, students who started Future Forward with above average literacy skills

continued to benefit from their participation five years after finishing the program. Students with below average literacy skills did not. However, Black students with above average literacy, regardless of whether they participated in Future Forward, tended to fall further behind their peers over time as they progressed through their schooling (Jones, Reeves, Li, & Gilman, 2021). Students in Future Forward did not fall as far behind though.

Together, the current study and the follow-up i3 study suggest Future Forward can be part of a solution for helping students of color learn to read and retain their skills. However, Future Forward is not enough to overcome poor instruction (Shanahan & Barr, 1995), the impact of a pandemic (Pier, Christian, Tymeson, & Meyer, 2021 June), and a culture of bias and racism. How and why participation in Future Forward is particularly impactful to Black male students is not entirely clear and will be the focus of future research on Future Forward. Through this work we hope to identify ways to maximize the impact of Future Forward and ways schools can better leverage the methods employed by Future Forward to create more equitable and enriching learning environments for all students.

The evaluation of Future Forward will continue during the 2021-22 school year. Although COVID-19 continues to disrupt schools, next year's Future Forward program will be more closely aligned to its intended program model. This will allow for a truer test of its scalability than was possible in the current study. Next year's evaluation will also broaden its focus to measure the impact of Future Forward on reading achievement, school attendance, and social-emotional development. Measuring all three of these outcomes in the same study will help us develop a stronger understanding of how Future Forward is impacting students and student subgroups.

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