The Impact of One Semester of Future Forward on Reading Achievement and School Attendance

Curtis J. Jones and Dongmei Li

Socially Responsible Evaluation in Education
University of Wisconsin Milwaukee

June 2023

Curtis Jones is the Research Director of the Office of Socially Responsible Evaluation in Education at the University of Wisconsin Milwaukee;
Dongmei Li is a former Research Associate at the Office of Socially Responsible Evaluation in Education at the University of Wisconsin Milwaukee;

Funded by award number U411B170045 from the Office of Elementary and Secondary Education of the US Department of Education;
Study preregistered with the Registry of Efficacy and Effectiveness Studies (REES) 1830.6v1

Visit www.uwm.edu/sreed for more information about the evaluation of Future Forward.

Abstract

Future Forward is an early primary literacy program that pairs one-on-one tutoring with family engagement. The approach of Future Forward is informed by both systems theory and a school-family-community partnership model. With its school-family-community partnership approach, schools are not solely responsible for developing student literacy. Instead of viewing families and communities as barriers that need to be overcome, they are viewed as having untapped potential for contributing to student literacy development. Although historically, participation in Future Forward lasted the whole school year, so that Future Forward could serve more students in the wake of COVID-19 school disruptions, in the 2021-22 school year program participation was shortened to one semester. As part of an Education Intervention and Research Mid-phase grant, the 2021-22 evaluation included 127 students across two Alabama and one Wisconsin school. Sixty-five were randomly assigned to receive Future Forward in the fall and 62 to business-as-usual (BAU) reading instruction. The 62 BAU students would receive Future Forward in the spring. Only five students left the study in the fall semester. All but two students received the intended amount of tutoring of at least two sessions per week. Regarding family engagement, 64.5% were contacted at least once per month. The results of a randomized control trial impact evaluation found a statistically significant overall positive impact of 0.30 standard deviations on reading achievement and a differential positive impact of 0.83 standard deviations on the reading achievement of students of color. Future Forward was not found to impact school attendance. Based on the positive impacts of this study, Future Forward will continue with the one semester implementation model in its EIR Expansion-phase grant.

The Impact of One Semester of Future Forward on Reading Achievement and School Attendance

Future Forward is an early elementary literacy program that combines one-on-one tutoring with family engagement to support student literacy development. In 2011, Future Forward was funded by an Investing in Innovations (i3) grant to develop the program and test its impact in seven Milwaukee schools. Two randomized control trial (RCT) studies found that two years of Future Forward had positive impacts on literacy, reading achievement, and school attendance (Jones, 2018; Jones & Christian, 2021). Further, five-years after the i3 study ended, 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., 2023). Former Future Forward participants were also less likely to be receiving special education services than students assigned to Business-as-Usual (BAU) literacy instruction.

Due to the positive findings from the i3 study, in 2017 Future Forward received an Education Innovation and Research (EIR) Mid-Phase grant to expand test its impact on students in 14 schools across three states. Because the impact of Future Forward during the i3 study was mostly realized after just one year of participation (Jones & Christian, 2021) and to make the program more scalable and cost effective, participation in the EIR grant was changed to one school year. In 2018-2019, this version of Future Forward was successfully piloted in all 14 schools (Jones et al., 2023). However, in the next year the program was interrupted by the COVID-19 pandemic (Jones & Li, 2023a). Then, in the following year, so that it could continue to support students and families during the pandemic, Future Forward was changed to virtual tutoring and family engagement (Jones & Li, 2023b). The disruption to implementation caused by COVID did have a silver lining. That fewer schools participated in Future Forward during the

grant resulted in funds being available to continue the program in three schools for an additional year during the 2021-22 school year. During 2021-22, Future Forward was again modified, moving from one year of participation to one semester. Although this was done so that more students could receive much needed literacy support in the wake of school disruptions caused by COVID-19, changing to one semester of participation would further improve the scalability of Future Forward and reduce its cost. This paper presents the results of the implementation and impact of one semester of Future Forward on the reading achievement and school attendance of students in three schools. For the first time during the EIR grant, all aspects of Future Forward would be implemented and tested.

The Future Forward Model

Future Forward approaches literacy development by developing literacy skills while also strengthening systems that can support student literacy development both during and past a student's participation. The approach of Future Forward is informed by both systems theory (Bronfenbrenner, 1979) and a school-family-community partnership model (Epstein, 2001) (Figure 1). With its school-family-community partnership approach, schools are not solely responsible for developing student literacy. Instead of viewing families and communities as barriers that need to be overcome, they are viewed as having untapped potential for contributing to student literacy development (Nieto, 2012). The collaborative work between teachers, Future Forward staff, and families helps develop a learning team and builds trust between the three partners (Graham-Clay, 2005) that may continue past a student's direct participation in Future Forward. The development of Future Forward was also informed by an understanding that more students need literacy support than a school has the capacity to provide. An instructional coordinator oversees a group of four to six tutors, with each tutor working with four to six

students at a time. Thus, Future Forward can support 25 students in a school at the same time. Again, considering its partnership approach, Future Forward acknowledges that schools can't do this alone. The need is such that families and communities must also be mobilized to support student literacy.

Tutoring

One-on-one tutoring is managed by an instructional coordinator who oversees a group of five to seven tutors in each school. Tutors participate in a series of all-program trainings at the beginning of the year, which include the implementation of the specific literacy strategies, how to develop a lesson plan, and how to administer and use literacy assessments. Tutors are informally observed and supported while they provide tutoring. They are also formally observed, using a structured observation instrument, at least once monthly by their program manager and receive feedback following these observations. If possible, the same tutors work with students for the entirety of their participation in Future Forward. The instructional coordinator also organizes opportunities to collaborate with school staff, organizing systems of communication with teachers about the progress of students in the program.

Students are pulled out of non-core classes during the school day for 30 minutes, up to three times per week. Each 30-minute tutoring session includes several phonics-based activities such as *Word Play* (Wasik & Jacobi-Vessels, 2016) and *Making Words* (Cunningham et al., 1998). Students use graphic organizers to build comprehension skills and write sentences connected to the W*ord Play* activity. They may also use *Elkonin boxes*, which involves segmenting words into individual sounds/boxes (Keesey et al., 2014).

Family engagement

Engaging families in tutoring programs improves student academic knowledge, skills, and confidence (Bryan, 2005; Little, 2009) and has an even greater benefit for low-income children and children with less-educated parents (Dearing et al., 2006; Lin, 2003). Further, family and community partnership practices can decrease chronic absenteeism (Sheldon & Epstein, 2004). The process for realizing the great potential of family engagement is not easy. Future Forward must overcome the historical expectations of parents being superficially engaged in their student's education (Epstein, 2001; Li, 2010). The efforts to do so are intentional and culturally responsive.

Each site has a family engagement coordinator who leads engagement efforts with participating students' families. Family engagement coordinators are often community members and parents of children attending the school. Their work is designed to bridge the divide between school and home by translating literacy concepts, educating families about a variety of literacy activities, and validating the literacy practices already happening in the home. Family engagement coordinators listen and affirm the practices of families and work to build upon them (Nieto, 2012; Gonzalez et al., 2005). Future Forward works to reduce the unequal power relationship between the school, Future Forward, and the family that is assumed by families and teachers at the start of their participation. It creates opportunities for overcoming barriers to family engagement that result from mismatches between school and home regarding language, schedules, and expectations (Lopez & Stoeling, 2010).

Family engagement coordinators receive a variable amount of training, depending on their experience, but all receive training about Future Forward tutoring, how to document communications, using scripts to facilitate effective communications, how to conduct an

engaging family event, how to conduct a safe home visit, how to build trust, and cultural differences in communicating with families. Although family engagement can take many forms to meet diverse family needs, there are some structured activities within Future Forward. Sites send home a monthly newsletter, hold monthly family events, send books home to help build a home library, and conduct home visits. Communications that surround these activities are consistent and frequent.

Previous Future Forward Research/Evaluation

Two i3-funded randomized control trial (RCT) studies of low-income students of color in Milwaukee established the positive impact that two years of Future Forward had on the reading development and school attendance (Jones, 2018; Jones & Christian, 2021). In addition to establishing impact benchmarks for Future Forward, these studies also established implementation benchmarks; Students received, across two years of participation, an average of 122.5 tutoring sessions (61 hours of tutoring) and families were engaged an average of 32 times. In 2017 Future Forward received an EIR Validation grant to expand to 14 schools across three states. Based on the finding from the i3 study that the impact of Future Forward was mostly realized after just one year of participation (Jones & Christian, 2021), Future Forward participation was shortened from two years to one.

2018-19 was an EIR pilot year where partnered Boys & Girls Clubs hired staff, organized their program, and started working with students and families in all 14 schools (Jones et al., 2023). During this development year, students and families received a variable amount of Future Forward and its impact, as measured through a regression discontinuity study, although positive, was not statistically significant. Although Future Forward implementation improved in 2019-20, much closer to the intended program, programming was cut short because of the COVID-19

pandemic (Jones & Li, 2023a). This limited the evaluation to only measuring the impact of the partial program on school attendance. Even so, the results were positive, with a statistically significant positive overall impact (β = 1.4%, p = 0.021), and differential positive impacts on Black students (β = 2.4%, p = 0.035), students who started the program will low attendance (β = 2.3%, p = 0.006), and Black students who started the program with low attendance (β = 3.6%, p = 0.030).

In 2020-21, Future Forward had a choice of delaying programming for a year and waiting out the pandemic. They instead decide to continue serving students as best they could. Future Forward made this decision because families and schools were desperate for help. To continue to serve students and families, Future Forward had to modify its delivery model to virtual. This decision made it likely that Future Forward's EIR grant would end without a true assessment of its implementation and impact. The decision reflects Future Forward's commitment to their school-family-community partnership approach (Epstein, 2001). Future Forward ethically could not put the needs of the program above the needs of the school or community. Even considering the modified program, a random study of its impact on the reading achievement of 133 students across nine schools was still implemented (Jones & Li, 2023b). Students received an average of 58 minutes of tutoring each week and had two family contacts each month. Although, overall, Future Forward did not have a significant impact on reading achievement, it may have had a differential positive impact on Black students (β = 0.34, p = 0.095) and Black male students (β = 0.54, p = 0.052). That only nine schools participated in the 2020-21 program resulted in excess funds that EIR allowed Future Forward to carry over to offer an additional year of programming in a limited number of schools during the 2021-22 school year.

Current Study of Future Forward

The 2021-22 Future Forward study was limited to three of the 14 schools originally included in the EIR-funded study. These included one Wisconsin and two Alabama schools (Table 1). The three schools were offered an additional year of support because they had previously demonstrated strong implementation. Future Forward partnered with two local Boys & Girls Clubs to implement Future Forward in these schools. The two Alabama schools are located in an urban community. Both schools are relatively high performing, with 51% and 57% reading proficiency, and do not receive Title I funding. They do not provide students with Tier II intervention services. Both schools mostly served White students and families before a 2015 consent order of United States District Court for the Northern District of Alabama, Northeastern Division changed their attendance areas to include students living in a segregated Black community. Staff at both schools shared that they have struggled to support these new students. The Wisconsin school is in a small town/rural community. The school is low performing, with 32% reading proficiency and receives Title I funding. It serves mostly White (73%), low-income (67%) students. Students do receive Tier II interventions as part of its Response to Intervention process.

****Insert Table 1 About here****

Partially due to the increasing need for support in these schools caused by the COVID-19 disruptions to schooling, the program length was changed from one year to one semester. All families who requested support received Future Forward by the end of the school year, half in the fall and half in the spring. Given the continued impact of COVID-19 on students, Future Forward felt that the delayed implementation design was the most morally defensible and consistent with its commitment to its school, family, and community partners. The delayed

implementation approach still allows for a rigorous impact study while not excluding any students from receiving services. This paper presents the results from the fall semester of Future Forward implementation and measures its impact on school attendance and reading achievement.

Research Design

We used a clustered randomized-control-trial (RCT) design, at the student level, to assess the impact of one semester of Future Forward on school attendance and reading achievement. The study design was approved by the REDACTED IRB. Students were randomly assigned to either Future Forward or BAU reading instruction within classrooms in the fall. Students assigned to Future Forward received the same reading instruction from the school as students assigned to BAU. Students who received BAU reading instruction in the fall would be offered the opportunity to receive Future Forward during the spring semester. The delayed intervention design provided the opportunity to measure the impact of Future Forward, while still providing literacy supports to all students and families who consented to be in the study. The study was designed to answer the following questions:

- *How was Future Forward implemented in the fall of 2021-22?*
- *What was the impact of one semester of Future Forward on regular-school-day attendance?*
- *What was the impact of one semester of Future Forward on reading achievement?*
- *What student groups differentially benefited from their participation in Future Forward?*

Measures

School attendance was measured twice, prior to the start of the program and at the end of participation in the program. Attendance rates were computed by dividing the total attended days by the total days of school from before Future Forward started and dividing the total attended

days by the total days of schools during the time Future Forward was active. Attendance rates were checked for skewness and found to be within acceptable levels.

The Star Reading assessment was administered to all students in the fall and at the end of participation in January. Star Reading is a short, online adaptive assessment with high internal reliability (0.95) and concurrent validity with other reading assessments (Renaissance Learning, 2021).

Local Reading/Literacy Assessments included the Phonological Awareness Literacy Screening (PALS) in Wisconsin and the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) in Alabama. The Wisconsin school administers the PALS in the fall and spring. The Alabama schools administer the DIBELS in the fall, winter, and spring. Thus, the DIBELS serves as a covariate and impact variable for the current study, while the PALS only serves as a covariate.

PALS is a criterion-referenced, teacher-administered assessment of foundational literacy (Invernizzi et al., 2003). The assessment's internal reliabilities range from 0.76 to 0.83, inter-rater reliabilities are 0.92, and test-retest reliabilities are between 0.92 and .96 (Invernizzi et al., 2015). The assessment also has strong evidence of predictive validity for student academic performance (Invernizzi et al., 2004).

DIBELS is a teacher-administered assessment of reading skills (University of Oregon, 2018). The composite score, which was used in the current study, combines the results from five measures of reading development. Composite score test-retest reliability is high, ranging from 0.70 to 0.93 depending on the grade level and form used. It also has high concurrent and predictive validity with the Iowa Test of Basic Skills (University of Oregon, 2018-2020).

Random Assignment

One hundred twenty-seven families consented to be in the study. Consenting occurred in the month of September in the two Alabama schools and in September and October in the Wisconsin school. Assignment was made within 36 regular-school-day classroom blocks. Sixty-five students were randomly assigned to receive Future Forward in the fall. The other 62 were assigned to receive BAU instruction. No replacements were made for students who dropped out of the program during the fall semester. In the spring, the 62 students assigned to BAU were offered the opportunity to receive Future Forward. The size of each block ranged from 1 to 8 students with 33 out of 36 classrooms (blocks) having between two and five students.

Study Participants, Attrition, and Students Included in the Final Analysis

Eligible study participants included kindergarten, first, second, or third grade students without an Individualized Education Plan (IEP) and who were not English learners. Most of the 127 students were eligible for free or reduced lunch (88%), roughly one-third were Black, and half were White (Table 2). Slightly more students assigned to Future Forward were White. Although students assigned to Future Forward started the study with slightly better school attendance (Table 3), this difference was not statistically significant (β = 0.0015, p =.340). Star Reading scores were used to calibrate assignment and to obtain balance between assignment groups. Thus, assignment groups were roughly equivalent at baseline on Star Reading (β = -0.148, p =.390). Local reading assessment results were provided after assignment. As a consequence, the magnitude of local assessment result differences between assignment groups were large but still not statistically significant (β = 0.336, p =.107).

Only five students attrited (3.9%), three assigned to BAU (4.8%) and two to Future Forward (3.1%). All five students transferred out of their school. Four of 83 Alabama students

(4.8%) and one of 44 Wisconsin students (2.3%) left the study. Differential attrition in Alabama (4.7%) and Wisconsin (4.2%) were small. The overall (3.9%) and differential attrition (1.7%) rates are within the conservative levels of acceptability as established by the What Works Clearinghouse (2020). The final analytic sample after attrition included 59 students assigned to BAU reading and 63 to Future Forward. After attrition, Future Forward and BAU students continued to demonstrate better baseline school attendance and reading assessment results (Table 3).

Analytic Strategy

We used general linear models (GLM) with fixed block effects to estimate the impact of Future Forward using equation 1:

$$Y_{ij} = \beta_0 + \beta_1(FF_{ij}) + \beta_2(A_{ij}) + \beta_3(Star_{ij}) + \beta_4(Local_{ij}) + \sum_{m=1}^{M} \beta_{5.m} X_{mij} + \sum_{j=1}^{J-1} \beta_{6.j} Block_j + \varepsilon_{ij}$$

Where Y_{ij} is the regular-school-day attendance rate during participation in Future Forward, winter Star Reading score, or winter local reading assessment score for the i^{th} student in the j^{th} block; FF_{ij} is an indicator of assignment to Future Forward; β_1 is the impact of Future Forward; A_{ij} is the school attendance rate in the months before the study started; $Star_{ij}$ is the baseline standardized Star Reading score; $Local_{ij}$ is the standardized baseline local assessment result (standardized separately by grade level and assessment); X_{mij} is the m^{th} of M additional covariates representing demographic characteristics (e.g. gender, free/reduced lunch, and race); $Block_j$ is the fixed effect of assignment block (classrooms); within each block, all Future Forward and BAU students received the same literacy assessments; and ε_{ij} is the error term.

In addition to including the fixed block effects, error terms were clustered by assignment block (Athey & Imbens, 2017). No baseline data were missing for students in the analytic

sample. For a robustness check, we stripped out all model effects except block fixed effects and group assignment. We also considered treat-on-treated models to measure the impact of Future Forward who received the full expected amount of tutoring and family engagement. However, all but two students received the expected amount of tutoring. While there was greater variability in the intensity of family engagement, we decided not to use this as a basis for establishing full program implementation, as needed for treat-on-treated modeling. The intensity of family engagement is dependent on the needs of families. More intense family engagement likely suggests greater need. Thus, it does not make sense to measure the impact of Future Forward on students who received more intense amounts of family engagement.

Differential effects of Future Forward on student subgroups (race, gender, F/R lunch eligibility, grade levels, baseline attendance, and baseline achievement) were explored by separately including interaction terms for each characteristic with Future Forward assignment. The differential impacts of Future Forward on subgroups with significant interaction terms were then modeled separately.

Results

Implementation

Future forward ran from Oct 18th through Feb 4th in the Wisconsin school and September 28th through February 1st in the two Alabama schools. All tutoring was done in person. Sixteen tutors supported Future Forward (Table 4). All were female and all but one was White. The number of students each tutor worked with ranged from one to six. Tutoring implementation was strong. The average student received a total of 25.5 sessions and 2.6 sessions per week during their one semester of participation (Table 5). This amount was close to what would be expected considering the 120 sessions students averaged across four semesters of participation during the

i3 study of Future Forward (Jones & Christian, 2021). All but two students received the targeted intensity of tutoring (at least two sessions each week).

Family engagement implementation was more variable between sites and families. The average student's family was engaged a total of 6.2 times or 1.5 times per month. All three sites used a combination of phone calls, text messages, emails, family events, and home visits to engage families. In person communications, through home visits, family events, or online conference, was the most common way the FEC was able to connect with parents. FECs were able to have at least one face-to-face conversation with all but 11 families. Altogether, twenty-four (37%) families were engaged at least twice per month while 43 (66%) were engaged at least once per month (Table 4). Even considering that much of the Alabama family engagement remained virtual, it was more intensive in the two Alabama schools, which averaged over seven contacts per participating family.

Impact

Unadjusted, there was very little change from fall to winter in the difference in school attendance between students assigned to Future Forward or BAU (Table 3). After adjusting for baseline attendance and achievement, block effects, and student demographics (equation 1), Future Forward did not have a statistically significant impact on school attendance (Table 6). Regarding Star Reading, unadjusted, Future Forward participants showed greater separation from BAU students in the winter assessment (0.29 standard deviations) than in the fall (0.08 standard deviations). After adjusting winter Star Reading scores with equation 1, Future Forward was found to have had a statistically significant positive impact on Star Reading ($\beta = 0.30$, $p = 0.003$). The impact remained using the simple model as well ($\beta = 0.40$, $p = 0.007$). We also examined the impact of Future Forward on local reading assessments (DIBELS) in the two

Alabama schools. Consistent with Star Reading results, Future Forward had a statistically significant impact on DIBELS according to both equation 1 ($\beta = 0.31$, $p = 0.002$) and the simple model ($\beta = 0.45$, $p = 0.007$) (Table 6).

To test for differential effects on Star Reading, we first tested the significance of several interaction terms with Future Forward assignment. Tested interaction terms included grade level, gender, race (White or students of color)[1], free/reduced price lunch eligibility, baseline Star scores, baseline local assessment scores, and location (Alabama or Wisconsin). We tested the same interaction terms (except for location) as predictors for DIBELS scores in the two Alabama schools. The interaction of location with Future Forward assignment was a significant predictor of Star Reading ($p = 0.002$). The interaction of race with Future Forward assignment was a significant predictor of both Star Reading ($p = 0.008$) and DIBELS ($p = 0.006$). These results suggest the impact of Future Forward depended on the race of the participant and whether they were served by Future Forward in Alabama or Wisconsin. We then examined the differential impact of location and race by conducting four separate statistical models predicting Star Reading scores, each including only White students, students of color, Wisconsin students, or Alabama students. The results of these models suggest much larger impacts of Future Forward on the Star Reading results of racially diverse students ($\beta = 0.83$, $p < 0.001$) and Alabama students ($\beta = 0.64$, $p = 0.001$) (Table 7). The results also suggest a much larger impact of the Alabama Future Forward program on the DIBELS scores of students of color ($\beta = 0.82$, $p = 0.001$). Conversely, the results suggest null effects on White students and students in Wisconsin.

[1] We would normally test the impact of specific racial groups and not group all diverse students into one group. The decision to group racial groups was necessary because of sample size limitations.

Future Forward instilling a love of reading

One Future Forward goal is to instill a love of reading in students. A student's attitude toward reading should improve as they gain confidence as a reader. Further, a love of reading continues after a student finishes their participation in Future Forward and may help sustain any gains made by students while in the program. Classroom teachers were asked to report at the start and end of the program how often each student showed an interest in reading books, *frequently*, *occasionally*, or *never/rarely*. Figure 2 presents the number of students who *frequently* showed an interest in reading books during these times. In the fall, before Future Forward, the same number of students assigned to Future Forward and BAU were reported as frequently showing an interest in reading books (32). In the winter, teachers reported that more Future Forward students (32) frequently showing an interest in reading books than BAU students (22) (Figure 2). Fewer students who had not participated in Future Forward retained their interest in reading books. Consistent with the differential effects on Star Reading scores, the reduction in the interest in reading books was only apparent in Alabama. While these differences were not statistically significant (*Exp (B)* = 1.73, $p = 0.536$), they do suggest a possible focus for future research.

Summary and Discussion

The study of the 2021-22 program Future Forward assessed the implementation and impact of one semester of Future Forward on reading development and school attendance. Future Forward was given an extension to their EIR grant, which allowed them to continue serving students and families in three schools, one in Wisconsin and two in Alabama. In a modification to the program model, Future Forward participation was shortened from one school year to one semester. This was done to make Future Forward more scalable and so that more students and

families could receive needed literacy support in the wake of school closures due to COVID-19. With a delayed treatment implementation model, all families who wanted their students to participate would be given the opportunity before the end of the school year. The evaluation randomly assigned half of the students to participate in the fall semester. Families of students not assigned to Future Forward would be offered the opportunity to have their student participate in the spring.

2021-22 was the first year of the 2017 EIR Mid-Phase grant when it was possible to test the implementation and impact of the fully developed Future Forward program as it was intended. The original plan was to conduct full evaluations of Future Forward during the 2019-20 and 2020-21 programs years. However, COVID-19 shut down schools in the spring of 2020. Then, schools served students virtually during the 2020-21 school year. While Future Forward continued to support students and families during that year, they had to adapt Future Forward to be a virtual program. In 2021-22, Future Forward was back to serving students and families in person.

Regarding implementation, tutoring was implemented as intended. Future Forward students received an intensive amount of supplemental reading instruction during the fall semester. Students received an average of 25.5 tutoring sessions and 2.6 each week, roughly what was expected during the limited time students were in the program. Most families were contacted at least once per month. Family engagement activities were blended in-person and virtual. All but 11 families had at least one face-to-face conversation with Future Forward staff.

Regarding impact, the limited sample of three schools reduced our ability to detect one. It was therefore not surprising that Future Forward was not found to impact school attendance. However, even considering the small sample, Future Forward had statistically significant,

positive impacts on Star Reading ($\beta = 0.30$) and DIBELS ($\beta = 0.31$). These results are particularly impressive given the shortened participation period of one semester. This change reduced the local cost per student (tutor, family engagement coordinator, and instructional coordinator pay and benefits) from approximately $4,000 to $2,000. Even with the reduced cost, Future Forward demonstrated an impact on reading achievement that was greater than what was measured after two years of participation in the i3 study (Jones & Christian, 2021).

The overall impacts were driven by differential impacts on students in the two Alabama schools (Star Reading $\beta = 0.64$) and students of color (Star Reading $\beta = 0.83$). Further, the differential impact in the two Alabama schools was mostly driven by its impact on Alabama students of color (DIBELS $\beta = 0.82$). Nearly all (fifty-three of 60) students of color participating in the study attended one of the two Alabama schools. Forty-eight of these identified as Black. The finding that Future Forward was especially impactful on Black students adds to a growing body of evidence from the EIR grant (Jones & Li, 2023a; Jones & Li, 2023b) and the i3 grant (Jones & Christian, 2021). Why Future Forward is consistently more impactful for Black students may be the result of Future Forward's school-family-community partnership approach. Implicit bias of teachers negatively affects Black students, even in early primary grades (Gilliam, 2005). As a result, White teachers often hold lower expectations for their Black students (Gershenson et al., 2016) and may expect Black students to be more trouble (Gershenson & Papageorge, 2018). Witnessing Black students succeeding in Future Forward may help teachers see the potential in Black students. Future Forward may also help teachers and Black families see the potential in each other (Lawrence-Lightfoot, 2004; Koonce & Harper, 2005). The Future Forward partnership approach may create space for mutual trust and respect to develop (Graham-Clay, 2005; Lindle, 1989). Future research on Future Forward will explore in more depth how

the school-community-family partnership approach may interrupt the effects of teacher implicit bias and mistrust between school and home.

Future Research

In 2021, Education Analytics was awarded an EIR Scale-up grant. To continue to allow Future Forward to support more students and reduce costs, participation will continue to be limited to one semester. The associated evaluation will again leverage a RCT delayed-intervention design, which still provides rigorous impact evidence while also ensuring greater access to the program. A one semester model also provides more flexibility to schools implementing Future Forward. Looking past the EIR grant, with an understanding of how much benefit students receive from one semester of participation a school can decide how much Future Forward a student should receive. Students who need more support can participate for the whole school year or even two years, as was the case in the i3 study (Jones & Christian, 2021).

While the current study suggests that one semester of participation in Future Forward can significantly impact students, it is unclear how the shortened period of participation affects whether impacts will be sustained over time. A recent follow-up study of the i3 Future Forward program found that five years past participation, the program was still positively impacting reading achievement and school attendance (Jones et al., 2023). The study also found that former Future Forward participants were less likely to receive specialized services. However, a student's participation in the i3 study spanned two years. It seems less likely that one semester of participation would have such a strong sustained impact on students. Again though, by understanding the impact of one semester of Future Forward, the program can be more flexible to the needs of students, families, and schools. Looking past the EIR grant, schools have the option of students participating in Future Forward in consecutive semesters. Within the EIR

grant, students may continue to receive Future Forward after taking a break from the program for a semester. Following students who have participating in multiple semesters of Future Forward longitudinally will provide insight into how the duration of participation in Future Forward translates to sustained impacts on reading, school attendance, and placement in specialized services.

The EIR scale-up grant evaluation will also work to explore the program conditions that make Future Forward unique among tutoring programs and particularly impactful for students of color. What changes occur in the relationships between teachers and families as students and families are engaged in Future Forward? How does participation change how teachers and families view each other? More in depth examination of the processes that result in positive impacts for students and families will contextualize program impacts and provide schools with direction for how to replicate these impacts in other settings.

References

Athey, S. & Imbens, G. W. (2016). The econometrics of randomized experiments. In the *Handbook of Economic Field Experiments*, 73–140.

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.

Bryan, J. (2005). Fostering educational resilience and achievement in urban schools through school-family-community partnerships. *Professional School Counseling, 8*(3), 219.

Cunningham, P. M., Hall, D. P., & Defee, M. (1998). Nonability-grouped, multilevel instruction: Eight years later. *Reading Teacher, 51*, 652-664.

Dearing, E., Kreider, H., Simpkins, S., & Weiss, H. B. (2006). Family involvement in school and low-income children's literacy: Longitudinal associations between and within families. *Journal of Educational Psychology, 98*(4), 653.

DIBELS. (2021). *What are DIBELS?* https://dibels.uoregon.edu/assessment/dibels#:~:text=The%20Dynamic%20Indicators%20of%20

Epstein, J. L. (2001). *School, Family, and Community Partnerships: Preparing Educators and Improving Schools*. Boulder, CO: Westview Press.

Gershenson, S., Holt, S. B., & Papageorge, N. W. (2016). Who believes in me? The effect of student–teacher demographic match on teacher expectations. *Economics of Education Review, 52*, 209-224

Gershenson, S. & Papageorge, N. W. (2018). The power of teacher expectations: How racial bias hinders student attainment. *Education Next, 18*, 64-70.

Gilliam, W. (2005, May). *Prekindergartners Left Behind: Expulsion Rates in State Prekindergarten Systems. Foundation for Child Development Policy Brief*. Retrieved online at: https://www.fcd-us.org/prekindergartners-left-behind-expulsion-rates-in-state-prekindergarten-programs/

Gonzalez, N., Moll, L., and Amanti, C. (2005). *Funds of Knowledge: Theorizing Practices in Households, Communities, and Classrooms*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Graham-Clay S. (2005). Communicating with parents: Strategies for teachers. *School Community Journal, 15*, 117-129.

Invernizzi, M., Swank, L., Juel, C., & Meier, J. (2003). *Phonological Awareness Literacy Screening-Kindergarten.* Charlottesville, VA: University Printing.

Invernizzi, M., Justice, L., Landrum, T. J., & Booker, K. (2004). Early literacy screening in kindergarten: Widespread implementation in Virginia. *Journal of Literacy Research, 36*(4), 479-500.

Invernizzi, M., Juel, C., Swank, L., & Meier, J. (2015). *Phonological Awareness Literacy Screening.* Charlottesville, VA: University of Virginia.

Jones, C. J. (2018). SPARK Early literacy: Testing the impact of a family-school-community partnership literacy intervention. *School Community Journal, 28*, 247–264.

Jones, C. J. & Christian, M. (2021). The results of a randomized control trial evaluation of the SPARK literacy program: An Innovative approach that pairs one-on-one tutoring with family engagement. *Journal of Education for Students Placed at Risk (JESPAR), 26*(3), 185-209. https://doi.org/10.1080/10824669.2020.1809419

Jones, C. J., Johnson, T., Bowser, J., Price, C., Litschwartz, S., & Pyatigorsky, M. (2023). *Implementation and Impact Results from the First Year of the EIR-Funded Expansion of the Future Forward Literacy Program.*

Jones, C. J. & Li, D. (2023a). *Testing the Impact and Scalability of the EIR-funded Expansion of the Future Forward Literacy Program.*

Jones, C. J. & Li, D. (2023b). *The 2020-21 Future Forward Literacy Program: Implementation and Impact during the COVID-19 Pandemic.*

Jones, C. J., Reeves, M., Li, D., & Gilman, L. (2023). What is the sustained impact of Future Forward on reading achievement, attendance, and special education placement five years after participation? *Educational Evaluation and Policy Analysis.* DOI: 10.3102/01623737231182629

Keesey, S., Konrad, M., & Joseph, L. (2014). Word boxes improve phonemic awareness, letter-sound correspondences, and spelling skills of at-risk kindergartners. *Remedial and Special Education, 36,* 167-180.

Koonce D., Harper W. Jr. (2005). Engaging African American parents in the schools: A community-based consultation model. *Journal of Educational and Psychological Consultation, 16*, 55-74.

Lawrence-Lightfoot, S. (2004). Building bridges from school to home. *Instructor, 114*(1), 24-28.

Li, G. (2010). Social class, culture and "good parenting": Voices of low-SES families. In Miller-Marsh, M. and Turner-Vorbeck, T. (Eds). *(Mis)Understanding Families: Learning from Real Families in Our Schools* (pp.162-178). New York, NY: Teachers College Press.

Lin, Q. (2003). *Parent Involvement and Early Literacy*. Harvard Family Research Project.

Lindle, J. C. (1989). What do parents want from principals and teachers? *Educational Leadership, 47*(2), 12-14.

Little, P. M. (2009). *Supporting Student Outcomes through Expanded Learning Opportunities*. Harvard Family Research Project. Retrieved from: http://www.hfrp.org/out-of-school-time/publications-resources/supporting-student-outcomes-through-expanded-learning-opportunities

Lopez, G. R. & Sterling (2010). Disarticulating parent involvement in Latino-impacted schools in the Midwest. In Miller-Marsh, M. and Turner-Vorbeck, T. (Eds). (*Mis)Understanding Families: Learning from Real Families in our Schools* (pp.19-36). New York, NY: Teachers College Press.

Nieto, S. (2012). Honoring the lives of all children: Identity, culture, and language. In B. Falk (ed.) *Defending Childhood: Keeping the Promise of Early Education* (pp. 48-62). New York, NY: Teachers College Press.

Puma, M. J., Olsen, R. B., Bell, S. H., & Price. C. (2009). *What to do When Data are Missing in Group Randomized Controlled Trials* (NCEE 2009-0049). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. https://files.eric.ed.gov/fulltext/ED511781.pdf

Renaissance Learning. (2021). *Star Assessments™ for Early Literacy Technical Manual***.** https://help.renaissance.com/US/PDF/SEL/SELRPTechnicalManual.pdf

Sheldon, S. B. & Epstein, J. L. (2004). Getting students to school: Using family and community involvement to reduce chronic absenteeism. *School Community Journal 14*, 39.

University of Oregon. (2018). *Understanding the Research Behind DIBELS® 8th Edition (Technical* Report 1801). Eugene, OR: Author.

https://dibels.uoregon.edu/sites/dibels1.uoregon.edu/files/DIBELS8thEdition_TechRpt1801_ResearchBrief.pdf

University of Oregon. (2018-2020). *8th Edition of Dynamic Indicators of Basic Early Literacy Skills (DIBELS®): Technical Manual.* Eugene, OR: University of Oregon. Available: https://dibels.uoregon.edu

Wasik, B. A. (1998). Using volunteers as reading tutors: Guidelines for successful practices. *The Reading Teacher, 51*(7), 562-570.

Wasik, B. A. & Jacobi-Vessels, J. (2016). Word play: Scaffolding language development through child-directed play. *Early Childhood Education Journal.* 10.1007/s10643-016-0827-5.

What Works Clearinghouse. (2020). *Standards Handbook, Version 4.1.* https://ies.ed.gov/ncee/wwc/Docs/referenceresources/WWC-Standards-Handbook-v4-1-508.pdf

Figure 1: Future Forward systems framework for sustained literacy development

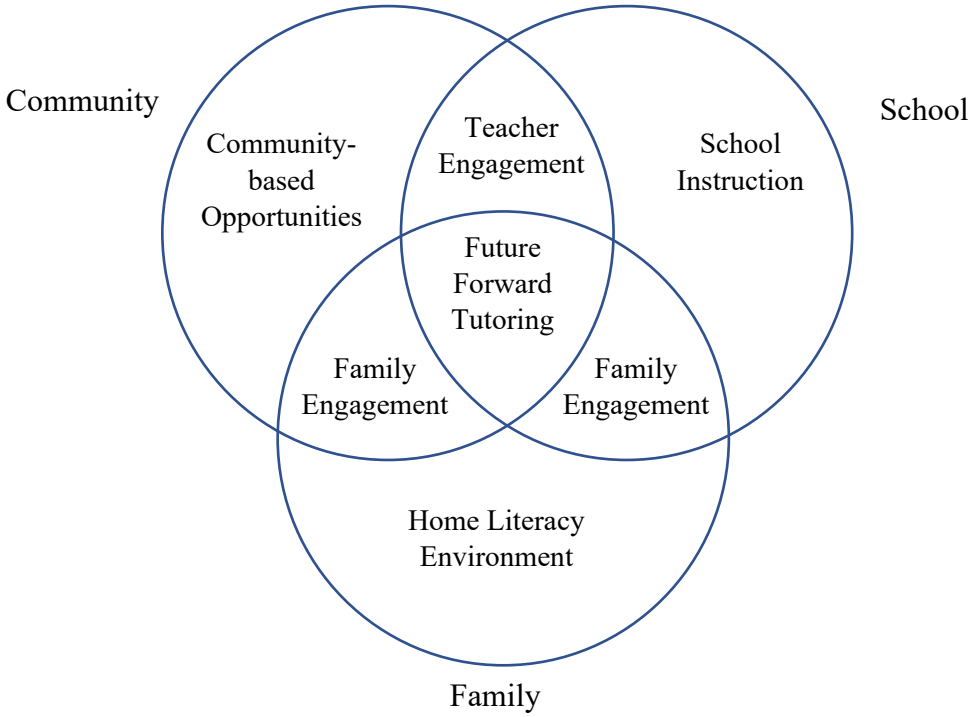

Table 1: Study schools

School	Community Type	Reading Proficiency	Percent White	Percent Low-income	Grades of Participating Students
AL school 1	Urban	51%	43%	43%	Grades KG-3
AL school 2	Urban	57%	54%	28%	Grades KG-3
WI school 1	Rural	32%	73%	67%	Grades KG-2

Table 2: Characteristics of study participants

		Assignment Sample			Analytic Sample		
Demographic group		BAU	Future Forward	Total	BAU	Future Forward	Total
Grade Level	KG	20 (32.3%)	23 (35.4%)	43 (33.9%)	20 (33.9%)	21 (33.3%)	41 (33.6%)
	1st	16 (25.8%)	16 (24.6%)	32 (25.2%)	15 (25.4%)	16 (25.4%)	31 (25.4%)
	2nd	19 (30.6%)	21 (32.3%)	40 (31.5%)	17 (28.8%)	21 (33.3%)	38(31.1%)
	3rd	7 (11.3%)	5 (7.7%)	12 (9.4%)	7 (11.9%)	5 (7.9%)	12 (9.8%)
School	AL school 1	20 (32.3%)	20 (30.8%)	40 (31.5%)	19 (32.2%)	20 (31.7%)	39 (32.0%)
	AL school 2	22 (35.5%)	21 (32.3%)	43 (33.9%)	20 (33.9%)	20 (31.7%)	40 (32.8%)
	WI school 1	20 (32.3%)	24 (36.9%)	44 (34.6%)	20 (33.9%)	23 (36.5%)	43 (35.2%)
Race/ Ethnicity	Black	22 (35.5%)	26 (40.0%)	48 (37.8%)	20 (33.9%)	25 (39.7%)	45 (36.9%)
	White	37 (59.7%)	30 (46.2%)	67 (52.8%)	36 (61.0%)	30 (47.6%)	66 (54.1%)
	Other	3 (4.8%)	9 (13.8%)	12 (9.4%)	3 (5.1%)	8 (12.7%)	11 (9.0%)
Gender	Female	32 (51.6%)	36 (55.4%)	68 (53.5%)	31 (52.5%)	35 (55.6%)	66 (54.1%)
	Male	30 (48.4%)	29 (44.6%)	59 (46.5%)	28 (47.5%)	28 (44.4%)	56 (45.9%)
F/R Lunch	No	8 (12.9%)	7 (10.8%)	15 (11.8%)	8 (13.6%)	7 (11.1%)	15 (12.3%)
	Yes	54 (87.1%)	58 (89.2%)	112 (88.2%)	51 (86.4%)	56 (88.9%)	107 (87.7%)
Total		62	65	127	59	63	122

Table 3: Unadjusted attendance and reading achievement

		Assignment sample			Analytic sample					
		Fall			Fall			Winter		
			Future			Future			Future	
Measures		BAU	Forward	Total	BAU	Forward	Total	BAU	Forward	Total
Attendance rate	Mean	91.64	92.84	92.25	91.62	92.97	92.32	91.81	92.75	92.29
	SD	9.92	8.95	9.42	9.98	8.96	9.45	6.64	7.96	7.34
	n	61	64	125	59	63	122	59	63	122
Local reading assessment*	Mean	-0.17	0.17	0.00	-0.16	0.21	0.03			
	SD	0.83	1.07	0.97	0.83	1.08	0.98			
	n	59	64	123	59	63	122			
DIBELS in Alabama	Mean				-0.19	0.19	0.01	-0.22	0.21	0.00
	SD				0.82	1.10	1.00	0.90	1.05	1.00
	n				38	40	78	38	40	78
Star Reading	Mean	-0.01	0.06	0.02	-0.01	0.08	0.04	-0.15	0.14	0.00
	SD	0.83	1.08	0.98	0.95	1.03	0.99	0.96	1.02	1.00
	n	62	65	127	59	63	122	59	62	121

* The Winter local reading assessment was only available as an outcome in the two Alabama schools.

Table 4: Future Forward tutor characteristics

School	Tutors	White	Other Race	Female	College Graduate	Have Teaching Experience	Students Served per Tutor
AL school 1	4	4	0	4	2	0	5
AL school 2	4	4	0	4	4	3	4-6
WI school 1	8	7	1	8	6	4	1-5

Table 5: Future Forward implementation

	Tutoring			Family Engagement				
School	Average Total Sessions (*SD*)	Average Sessions Per Week (*SD*)	Students Receiving 2+ Sessions Per Week (%)	Average total contacts (*SD*)	Average contacts per month (*SD*)	Families contacted 2+ times each month (%)	Families contacted 1+ times each month (%)	Students
AL school 1	20.3 (5.1)	2.2 (0.6)	18 (90.0%)	7.4 (6.5)	1.9 (1.6)	9 (45%)	12 (60%)	20
AL school 2	22.9 (1.5)	2.5 (0.2)	20 (100%)	7.6 (4.3)	1.9 (1.1)	9 (45%)	17 (85%)	20
WI school 1	32.3 (3.6)	3.0 (0.3)	23 (100%)	4.1 (2.9)	1.0 (0.7)	4 (17%)	12 (52%)	23
Overall	25.5 (6.4)	2.6 (0.5)	61 (96.8%)	6.2 (4.9)	1.6 (1.2)	22 (35%)	41 (65%)	63

Table 6: Impact estimates of Future Forward

Measures	β	Standard error	p
School attendance rate	0.002	0.011	0.845
School attendance rate – Simple model	0.007	0.013	0.596
Star Reading	0.30	0.10	0.003
Star Reading – Simple model	0.40	0.15	0.007
DIBELS*	0.31	0.10	0.002
DIBELS* – Simple model	0.45	0.17	0.007

* DIBELS is the winter local reading assessment that was only available as an outcome in the two Alabama schools

Table 7: Differential impact estimates of Future Forward on…

Measures of reading	β	Standard error	p
Star Reading			
White students	0.05	0.16	0.756
Students of color	0.83	0.21	< 0.001
WI students	-0.10	0.15	0.516
AL Students	0.64	0.19	0.001
DIBELS*			
White students	0.17	0.17	0.318
Students of color	0.82	0.24	0.001

* DIBELS is the winter local reading assessment that was only available as an outcome in the 2 Alabama schools

Figure 2: Number of students *frequently* showing an interest in reading books by state.