2016-2017

REPORT CARD RESULTS

We don't close achievement gaps
We prevent them!

Key Takeaways

1. 10 Books A Home (10BH) graduates, on average, perform at or above grade level in nearly every subject, with that performance generally staying the same or increasing through third grade so far (grade of the oldest cohort).
2. In Math, 10BH graduates perform 47% better than all the kids in California, while also outperforming their peers in every local district.
3. In English, 10BH graduates perform 10% better than all the kids in California (even though 10BH grads are mostly English Language Learners), while also outperforming their peers in every local district.
4. 10BH graduates who are English Language Learners (ELL) perform over 4x as well in both Math and English compared to ELL students in California, while also outperforming their peers in every local school district.
5. Low-income students are typically 12-18 months developmentally delayed when starting kindergarten. The above results indicate that 10BH is effectively helping to prevent the achievement gap for its low-income participants.

This is Just the Beginning

The goal of this research is to better understand whether there is measurable performance change in students who participate in 10BH. For this report, we achieved a sample size of 72 student report cards, which is by no means small for early childhood education research. However, by next year we will have a potential sample size of 144, which is comparable to or larger than the sample sizes of canonical early education academic papers[1,2], and will allow us to better measure significance by grade or over time.

We also have an aggressive research agenda for 2018-19, to bolster and expand upon these already considerable findings:

1. Measure the cognitive growth of our participants and how well that growth is sustained throughout their development. This research is already in progress in partnership with the Chan Zuckerberg Initiative.
2. Match performance scores against children who did not have an early education intervention in the school district. Already we are developing more effective means of report card collection and establishing tighter relations with schools in the area to achieve this goal.
3. Measure short-term and long-term gains from 10BH against other early intervention programs. This will add to an unreleased, IBA approved study 10BH conducted in 2015, which showed that children in 10BH outperformed their preschool peers in all areas of the nationally used Desired Results Developmental Profile (DRDP) assessment.
4. Match 10BH graduates' Kindergarten Readiness Assessments with other children in their districts to better understand the program's influence on school readiness for its participants. This is already in the works for 2017 graduates.

During the summer of 2018, 10BH will be hosting a research gala to present findings from aforementioned research initiatives, along with announcements of additional research slated to investigate other facets of the organization's reach in the community. The goal for the future is to build a broad research base that surpasses the typical nonprofit research agenda to not only prove, but truly understand the organization and Intrinsic Learning Motivation (ILM) method's reach.

1 To name a few:
FPG Child Development Institute, The Carolina Abecedarian Project.
Lawrence J. Schweinhart, Helen V. Barnes, and David P. Weikart, Significant Benefits: The High/Scope Perry Preschool Study through Age 27 (Ypsilanti, MI: High/Scope Press, 1993).
Heckman, James J. The Economics of Inequality: The Value of Early Childhood Education (American Educator, v35 n1 p31-35, 47 Spr 2011).

Background

10 Books A Home (10BH) was founded in 2009 by Paul Thiebaut III with the goal of changing the academic trajectory of children in high-poverty, at-risk communities. Based on the concept of using children's Intrinsic Learning Motivations (ILM) (an educational methodology developed by Paul) to frame learning through the lens of what each child is naturally passionate about, 10BH seeks to cultivate a love of learning that persists over a lifetime and is fostered in the home.

Lessons occur in the child's home once a week and at least one adult in the family is present and participating throughout. Children range in age from 2-5 years old and typically spend two years in the program. 10BH currently **serves 200 families** annually in the communities of East Palo Alto, CA and East Menlo Park, CA. Figure 1 shows a breakdown of the demographics of the children enrolled in the program, compared with the demographics of the state of California:

Figure 1. Demographic Comparison of California Students vs. 10 Books A Home Students
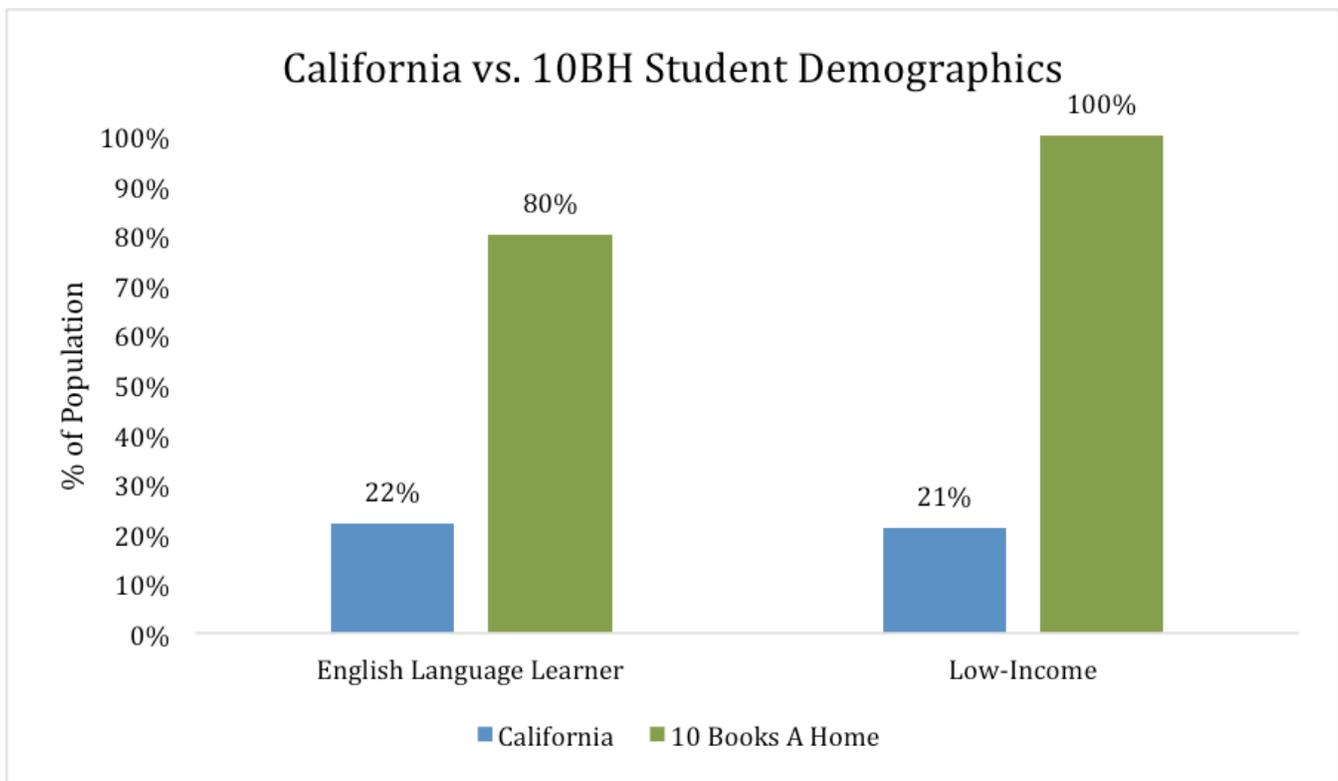
The children that begin 10 Books A Home are already **three months developmentally delayed** when they begin the program at age three, and by the time children in poverty enter kindergarten, they are typically 12-18 months developmentally behind. In the community of East Palo Alto, we see that 81% of their peers are performing below grade level and 60% will eventually drop out of high school.

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Methodology

Every year, 10BH collects the report cards of its graduates on a voluntary basis. For the school year of 2016-2017, we collected 90% of 10BH graduates' report cards. Because not every report card was usable for the purposes of this analysis (i.e. may not have been complete), we ended up with 72 analyzable report cards, which accounted 81% of total 10BH graduates. This included 29 kindergarten, 18 first grade, 19 second grade, and six third grade report cards.

We coded the results based on whether measurements for 12 subject areas were below, at, or above grade level on a 3-point scale:

To compare these scores against the district- and state-level, we used 2017 California Assessment of Student Performance and Progress (CAASPP) scores, as reported on EdSource. To have a representative comparison, we then collapsed all relative English/Language Arts report card measures (reading, writing, speaking and listening, and language) into a single measure. Although the CAASP starts in third grade, it provides a basis for measuring how the state and districts are doing through time. It is not a perfect comparison to our data, but it does give us a valid reference point to assess the academic health of our graduates.

Level	Score for Analysis
Above Grade Level	3
At Grade Level	2
Below Grade Level	1

Results and Discussion

Overall, the results were incredibly encouraging, with **10 Books A Home graduates performing at or above grade level in nine subjects**, as seen in Figure 2 – including Reading and Math. For the three where they did not hit that target (Language, Writing, and Listening/Speaking), they were within 0.2 of reaching it, which means they very nearly met the standard. Since 60% of the learners in this study were English Language Learners (ELL), that is an impressive performance.

Importantly, we also found that the **scores are holding over time**. Not only were students from the first cohort (now in 3rd grade) still performing remarkably well, but even individual children's

scores, on average, stayed the same or increased when compared to last year's data. For the 2016-2017 first-to-third graders, who were a part of last year's analysis, their average overall GPA stayed relatively flat (from 2.08 last year to 2.09 this year). Figure 3 shows that 75% of children we matched between last year and this year's data had either a similar or higher overall GPA. Similarly, we found that 75% matched or increased their scores in both Math and English from last year.

Figure 2. Overall 2016-2017 GPA Averages for 12 Subject Areas by Grade

| Grade	1st	2nd	3rd	KN	Overall	Average
Overall GPA	2	2.1	2.5	2.1		2.1
Social-Emotional	2.2	2.3	2.4	2.4		2.3
Effort	2.2	2.2	2.4	2.4		2.3
Reading	1.9	2.1	2.3	2		2
Writing	1.7	1.8	2.2	1.7		1.8
Listening/ Speaking	1.8	1.7	2.8	2.1		1.9
Language	1.6	1.8	2.4	1.9		1.8
Math	1.8	1.9	2.2	2		2
Science	2	2.1	2.6	2.1		2.1
Social Studies	2	1.9	2.8	2		2
PE	2.2	2.6	2.8	2.5		2.5
Arts	2.1	2.3	2.9	2.4		2.3
Spanish	2.7	3	2.5	2.6		2.7

Figure 3. Overall GPA Change of Individual Students Over One Year
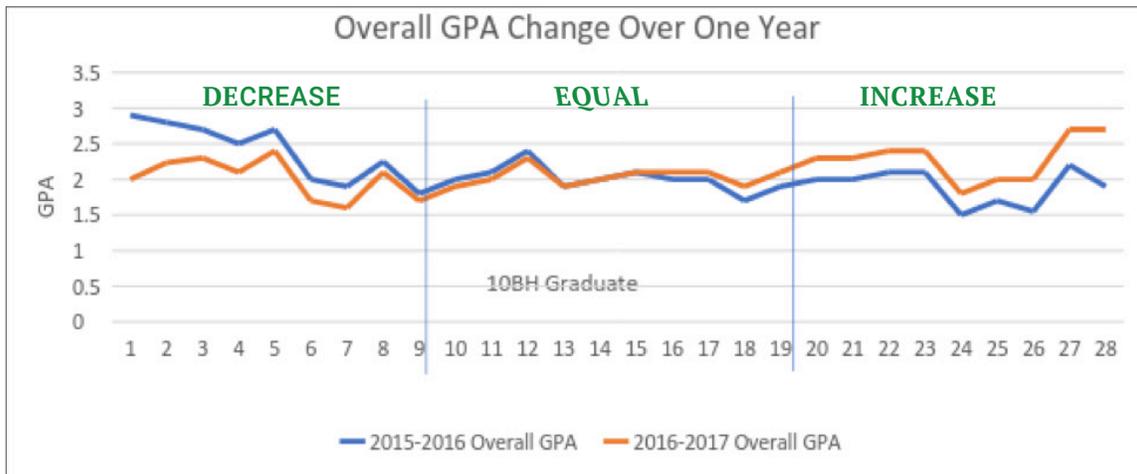
When we look at the state numbers for ELL student performance in Figure 4, we find that **10BH ELL students are succeeding at over 4x the rate of their counterparts in California.** In fact, on average, **10BH graduates are performing better in both Math and English than everyone else in the state** – with averages that are 46% and 10% higher respectively. Considering that all the children in the program are considered economically disadvantaged, and most are English Language Learners, the power of that performance is amplified.

Figure 4. 10 Books A Home Student Performance vs. California Student Performance
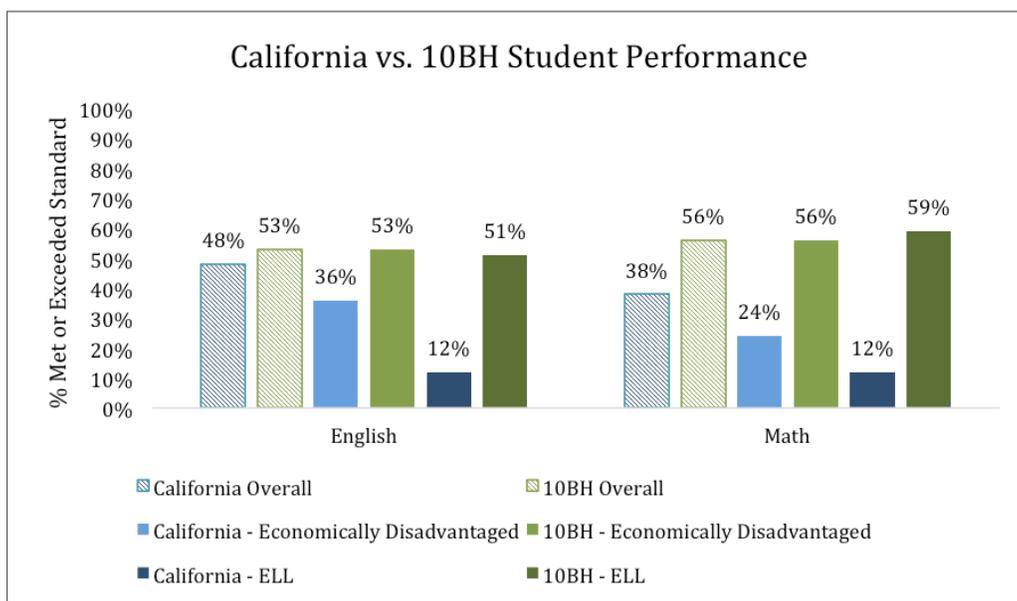
However, it could have just been that students attending schools in this area were more likely to have successful performances, regardless of the program. So, we further narrowed our purview to look at 10BH student performance as compared to average performance in the school district's students attended. Figure 5 and Figure 6 show results from the most attended school districts by 10BH graduates. Ravenswood City School District (RCSD) is located in East Palo Alto and attended by 30 of the students whose report cards we collected. Palo Alto Unified School District (PAUSD) is located in Palo Alto and attended by 16 of the students whose report cards we collected. Both school districts had every grade represented. There were 10 different districts or independent charter

schools in total that were analyzed, although sample sizes were much smaller for the others (ranging from one-to-seven students).

The demographics of RCSD and PAUSD districts are quite disparate. Ravenswood students are 93% Low Income, and 61% ELL. Palo Alto students are 10% Low Income, and 12% ELL. PAUSD is considered to be a higher performing district, with 82% of its students meeting or exceeding English and Math standards – compared to Ravenswood's 20% in English and 13% in Math. However, many of PAUSD's gains fade when separated into Economically Disadvantaged and ELL subgroups, as seen in Figure 6.

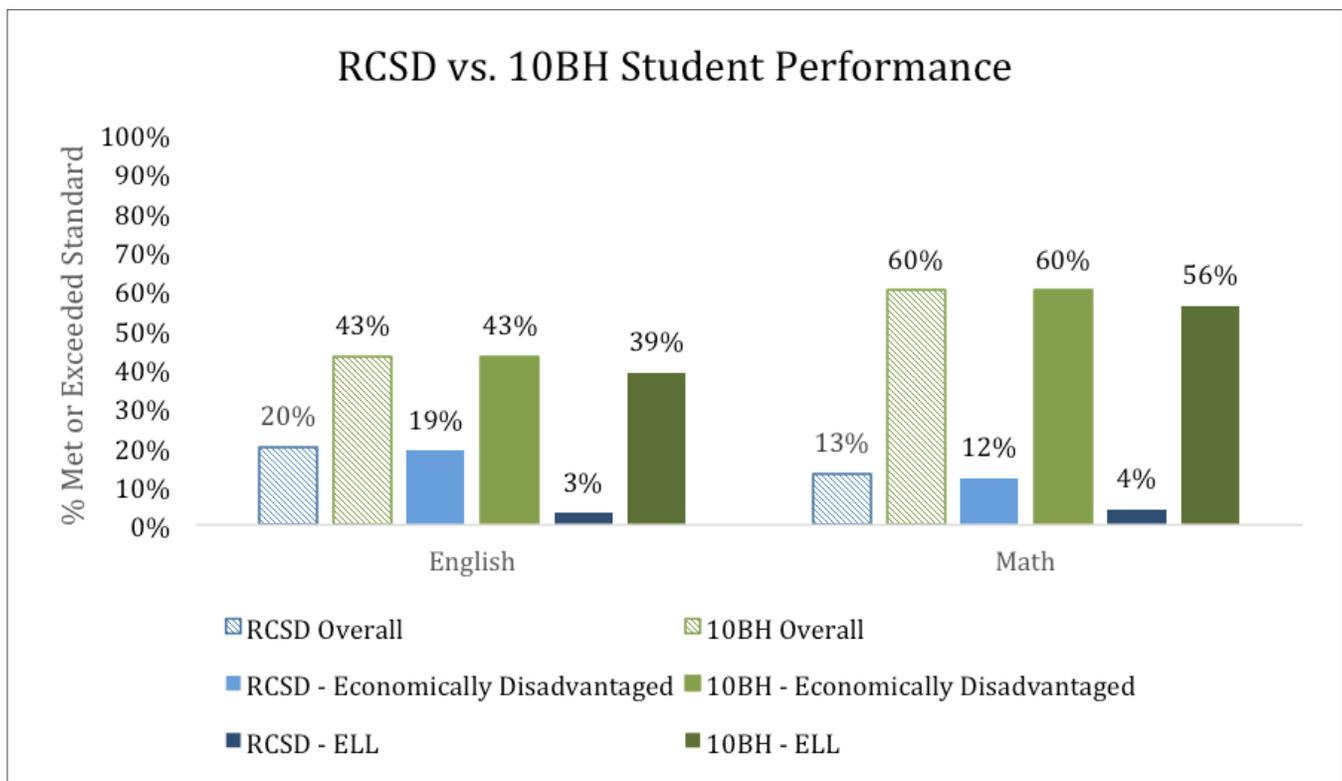*Figure 5. Performance of 10BH Students at Ravenswood School District vs. School Population*
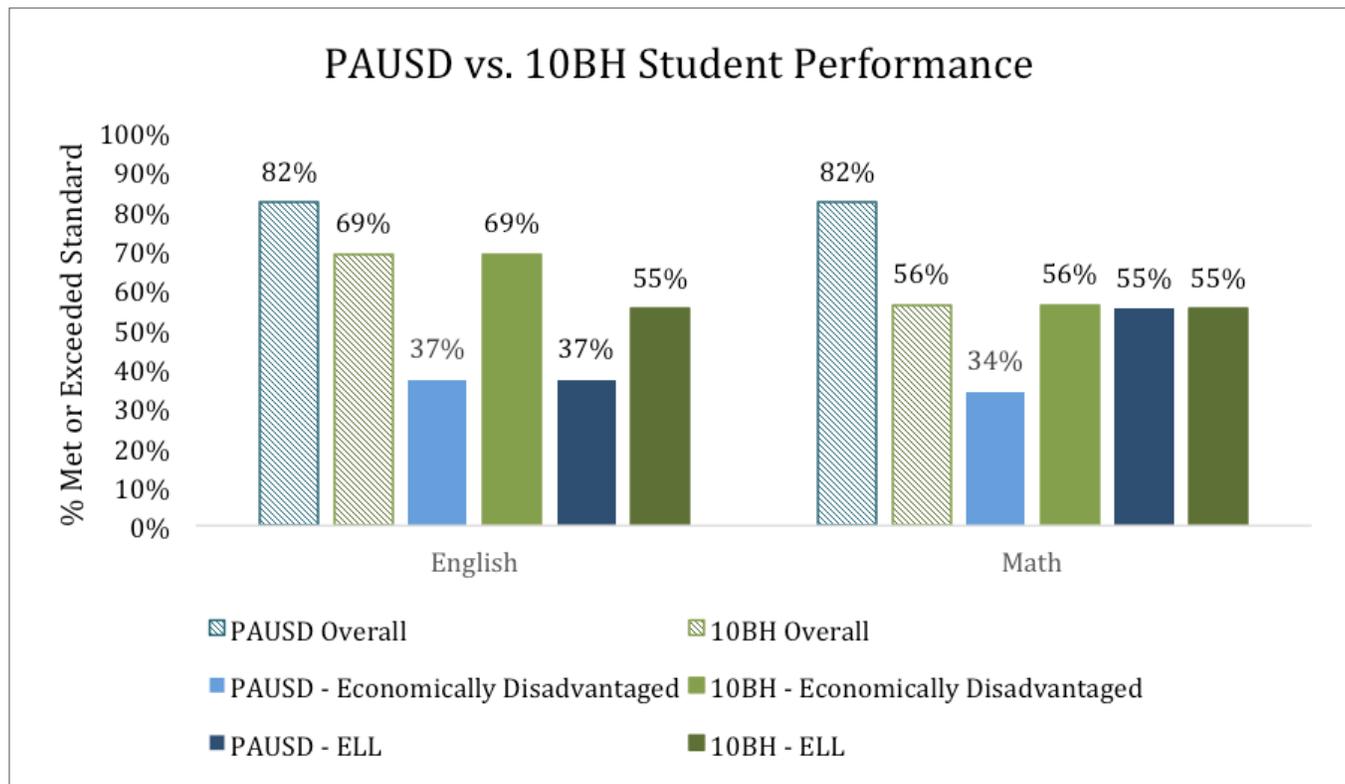
Figure 6. Performance of 10BH Students at Palo Alto School District vs. School Population

PAUSD vs. 10BH Student Performance

As different as these two districts are, 10 Books A Home graduates still perform better than their peers. **In Ravenswood, 10BH grads are performing nearly 6x better in Math and over 4x better in English.** If we look only at ELL students who went through 10BH, the difference is staggering – a 13x increase in English performance and a 14x increase in Math performance.

In Palo Alto, the overall numbers are higher – as expected based on the district's demographic makeup. However, when we look at the success rates for 10BH and compare that to Palo Alto's numbers for economically disadvantaged and

Hispanic students, we see a large increase. **Compared to students who are economically disadvantaged overall, there is a nearly 2x increase in English and Math for 10BH grads.** ELL students who went through 10BH also had a 150% increase in English performance. This means that we are seeing the effects of 10BH persist regardless of school quality attended afterwards.

Conclusion

The numbers that we see are promising indicators that 10 Books A Home is succeeding at its goal of raising academic performance in a lasting manner and preventing the achievement gap for its participants. We know that children who come into 10 Books A Home have the odds stacked against them. In general, 60% don't speak English yet, and would typically have to learn when they started kindergarten without 10BH. All of the children come from low-income backgrounds, and usually can't afford the same kinds of academic boosts early in life as their higher earning counterparts.

> *We also know that the children in our program are, on average, three months developmentally delayed upon entrance to 10BH (age three) and are likely to be 12-18 months developmentally delayed before entering kindergarten (age five). So, observing that their grades are higher than the state's averages – which includes more advantaged children, is an incredibly promising finding.*

More specifically, finding that our graduates are outperforming their counterparts in their district is especially vital to confirming the program's efficacy, since they are a more representative subgroup. **We seem to be seeing kids that are developmentally delayed, ELL, and low-income surpassing their counterparts in the state and in their local districts**. Even in a school district like PAUSD where performance is typically high, 10BH graduates are outperforming their comparable peers.

As mentioned in the "This is Just the Beginning Section", there are a number of improvements that we are already making to our report card analysis for the 2018-2019 school year. We are aiming to get 100% of student report cards for our graduating cohorts moving forward, and gather data to report even more accurate comparisons by grade rather than just relying on CAASP scores. Our sample size will also significantly increase as years go by, helping to confirm the validity of our findings.

It is worth noting that these results are based on cohorts where the 10BH philosophy was still developing, so they got varied levels of program implementation. The Intrinsic Learning Motivation method taught to Role Models (tutors) was still developing across all grades in the analysis, when 10BH was still located in the founder's apartment. The core model of 2:1 tutoring, parental involvement, and book giving has been continuous, but as additional layers of ILM method are applied to newer cohorts, we expect these results to improve.

The goal of 10BH is not just for *most* of our graduates to succeed academically, or to see rates far above other averages, but to get that number up to 100% over the course of children's academic careers. We call this the Aim Higher Aim Longer principle. This is the ultimate goal of our research, and the driver for all of the organizational improvements for our participants, their families, and our Role Models (tutors) going forward.