RESEARCH RESULTS:
Mindset Study—Early Outcomes

READ180® UNIVERSAL
THE HMH RESEARCH MISSION STATEMENT

Houghton Mifflin Harcourt® (HMH®) is committed to developing innovative educational programs and professional services that are grounded in learning science evidence and efficacy. We collaborate with school districts and third-party research organizations to conduct research that provides information to help improve educational outcomes for students, teachers, and leaders at the classroom, school, and district levels. We believe strongly in a mixed-methods approach to our research, an approach that provides meaningful and contextualized information and results.
STUDENTS DEMONSTRATE POSITIVE GROWTH IN THEIR MINDSET AND LITERACY ACHIEVEMENT

PROFILE

DISTRICTS:
Bethel School District, Washington
Cypress-Fairbanks Independent School District, Texas
Spokane Public Schools, Washington
Virginia Beach City Public Schools, Virginia

GRADES:
7–8

STUDY DESIGN:
Bronze: Promising (ESSA)

EVALUATION PERIOD:
2016–2017 school year

MEASURES:
Teacher and student mindset surveys
State English language arts tests: State of Texas Assessments of Academic Readiness (STAAR), Virginia Standard of Learning (SOL), and Smarter Balanced HMH Reading Inventory
READ 180 Universal software usage logs
HMH Instructional Practice Inventories
Student and teacher focus groups and interviews

THE CHALLENGE

Adolescents who struggle as readers are at high risk for difficulties in all academic subjects and ultimately for an early exit from high school. Reading difficulties often start early in students’ lives, and researchers investigating these difficulties within the first few years of elementary school have long sought causal factors to explain the challenges many students face.

Decades ago, researchers proposed that some “deficit” or deficiency within the students themselves, such as a sensory or physiology “malfunction,” might be the trigger for reading difficulties (Weiner & Cromer, 1967). Proponents of the deficit theory differed on whether a student’s reading difficulties might be permanent or could be remediated through intensive interventions, for example those that addressed foundational skills such as phonemic awareness or phonics or more efficient eye movements. Other researchers maintained that conditions within young children’s home environments—such as the sheer number of words they hear and learn to use—might be the common factor underlying later difficulties (Hart & Risley, 1995). More positively than the deficit theorists, researchers who look at environmental factors advocate strongly for availability of high-quality pre-school for all students, where they will hear rich language, handle books, and come to view “school” as a positive, nurturing environment (Gormley, Phillips, & Anderson, 2017; Kirp, 2017).

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1 Bronze level studies use a variety of designs, such as single-subject designs, pre- and posttests, qualitative case studies, ethnography, and self-report surveys, among other design types. While informative, these studies are not eligible to meet What Works Clearinghouse (WWC) standards. Following the Every Student Succeeds Act (ESSA) categories, these studies provide promising evidence.
More recently, researchers, especially studying cognitive variables in learning, began to drill deeply into the actual behaviors that strong readers use to decode unfamiliar sound-symbol correspondences, figure out new vocabulary, monitor emerging meaning, and ultimately comprehend what they are reading (Pressley & Afflerbach, 1995). The totality of this self-monitoring was termed “metacognitive awareness,” that is, thinking about one’s reading behaviors and adjusting those behaviors to achieve greater levels of understanding. Consciously or unconsciously, good readers set goals for themselves, such as reading to learn something new, reading to enjoy a favorite author’s ideas, regulating their progress, and employing mastery-oriented strategies to achieve their comprehension goals (Molden & Dweck, 2006). Weaker readers often give up—convinced that they are “not good readers” and that their reading abilities are unchangeable.

Some teachers misinterpret students’ “giving up” as laziness, bad behavior, or resistance to learning and even in seemingly informed and nurturing environments, teachers can communicate that there are “good” and “poor” students, especially in key subjects like reading and mathematics. Researchers investigating the teacher-student dynamic when students struggle academically have suggested that students’ early reading difficulties can make lasting impressions on them. Their work suggests that teachers often interpret students’ “giving up” behaviors as signs that they lack motivation or don’t try “hard enough” to make sense of what is taught. When this happens, teachers sometimes dismiss striving readers as behavior problems needing discipline, not instruction (Learned, 2016). In such a context, the “poor” students often begin to think of themselves as somehow “different,” outsiders who don’t belong in school (McDermott, Goldman, & Varenne, 2006; Learned, 2016).

Carol Dweck and her colleagues were among the researchers trying to identify the extent to which social-emotional attributes influence the ways in which students interact with challenging learning situations, including how they set goals, monitor their progress, and adjust their behaviors to meet their goals. Dweck and others began using the term “mindset” for the approach individuals take to challenging tasks, both in and out of school. Those with a “growth mindset” believe that intelligence is malleable and that they can continue to learn, even when faced with challenges. They persevere because they believe that their hard work and stamina will pay off. Research has shown that when students view their intelligence in this way, they are far more likely than many of their peers to experience positive academic outcomes over time (Blackell, Trzesniewski, & Dweck, 2007; Burnette, O’Boyle, VanEpps, Pollack, & Finkel, 2013). The opposite is a “fixed mindset” that can result in negative feelings toward one’s ability to learn and often a disinclination to keep trying or to try new approaches—in other words, to “giving up.” Fortunately, there is strong evidence that adolescence is not too late to address the underlying causes for students’ reading difficulties (Scammacca et al., 2007) and to provide instructional interventions to improve their skills (Boulay, Goodson, Frye, Blocklin, & Price, 2015; Kamil et al., 2008; Slavin, Cheung, Groff, & Lake, 2008). Numerous rigorous studies have shown statistically significant positive effects of such interventions (Boulay et al., 2015)—including three evaluations of READ 180® as used in federally funded Striving Readers programs.

The link between students’ mindset and success in intervention classes is nuanced and may not be evident immediately. Recent studies have demonstrated that students with a “growth” mindset have greater academic success than those with a “fixed” mindset, and that interventions promoting a growth mindset increase the academic achievement for students, especially those with initially lower grades or at higher risk of failing. Students with a fixed mindset may be far less receptive to instruction offered in such a program because they view their reading difficulties as part of their identities as learners: I’m not a good reader and never will be, so this class is a waste of time. On the other hand, some adolescents whose test scores qualify them for extra help may see themselves as adequate enough readers (Learned, 2016), so they too may be resistant to interventions.

Fortunately, there is considerable evidence about the importance and potential impact of purposefully cultivating students’ positive feelings about themselves and their abilities. In fact, in the right circumstances, even relatively short interventions can begin a turnaround in students’ thinking (Borman, Grigg, & Hanselman, 2016; Walton, 2014).
READ 180 INSTRUCTIONAL MODEL

THE SOLUTION

READ 180 Universal is the latest version of an evidence-based intervention for striving readers in the late elementary, middle, and high school grades. Introduced to schools in the 2016–2017 school year, READ 180 Universal seeks to help students develop the academic mindset, academic behaviors, and learning strategies needed for success in their courses, and then in college and their future career. The new program gives students considerable flexibility in what they read, features a Student App, and reinforces throughout the importance of students developing a growth mindset about themselves as readers and learners. Additionally, it provides teachers with insight into their own mindset and gives them strategies for building the academic mindset of their students.

Programs such as READ 180 Universal that purposefully integrate strategies fostering mindset with rigorous literacy intervention can play an even stronger role in improving students’ performance because it seeks to build their mindsets as well as their skills. Instruction that helps striving readers move toward a growth mindset can produce positive outcomes because it encourages a broader, more flexible approach to reading, one that acknowledges for students that all readers struggle from time to time, but that strong, flexible readers spontaneously apply multiple strategies to check on and build comprehension. They may access background knowledge about a topic, slow down their reading pace or reread, or mentally summarize to check their understanding; undeterred, they move ahead toward success.

THE STUDY

American Institutes for Research (AIR) conducted a mixed-methods study in four districts that were introducing the READ 180 Universal program to Grade 7 striving readers during the 2016–2017 school year. Students were assigned to READ 180 Universal classes based on their state reading test scores and on Lexile® levels identified by the HMH Reading Inventory®.

The study explored program implementation and effectiveness in three primary areas: 1) the impact of mindset messaging on students enrolled in READ 180 Universal and any differences that exist in mindset between these students and (in two districts) a sample of their peers not enrolled in the program; 2) implementation of READ 180 Universal in participating districts; and 3) the perceptions about READ 180 Universal of participating teachers and their students.
District Characteristics

The four study districts, each of which has a history of using READ 180 as an intervention for striving readers, were: Bethel School District, Washington; Cypress-Fairbanks Independent School District (CFISD), Texas; Spokane Public Schools, Washington; and Virginia Beach City Public Schools, Virginia. READ 180 was well established in these districts. Bethel had been implementing the program for 17 years; Virginia Beach for 13 years; CFISD for 11 years; and Spokane for 3 years. Houghton Mifflin Harcourt (HMH) regional account executives helped to identify districts, and recruitment efforts were conducted collaboratively by HMH and AIR.

Participants

Participating districts differed in size and student composition and in the extent to which they could provide comparison student and teacher samples for the study. The core samples in all districts were Grade 7 READ 180 Universal students and their teachers. Comparison samples could be identified only in Bethel and CFISD; these were Grade 7 English teachers and their students in Bethel and in CFISD Grade 7 teachers implementing the locally developed intervention program called Reading Workshop, a 45-minute daily intervention. These comparison teachers completed fall and spring surveys. Therefore, the student study sample included READ 180 Universal students in all four districts, with comparison students only in Bethel and CFISD. Table 1 provides an overview of the study’s focal groups in each district.

TABLE 1. Overview of READ 180 Universal and Comparison Student Samples

<table>
<thead>
<tr>
<th>District</th>
<th>N for Schools</th>
<th>READ 180 Universal</th>
<th>Comparison</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Students</td>
<td>Teachers</td>
<td>Students</td>
</tr>
<tr>
<td>Bethel, WA</td>
<td>6</td>
<td>55</td>
<td>6</td>
<td>48</td>
</tr>
<tr>
<td>Cypress-Fairbanks, TX</td>
<td>6</td>
<td>128</td>
<td>6</td>
<td>163</td>
</tr>
<tr>
<td>Spokane, WA</td>
<td>1</td>
<td>22</td>
<td>2</td>
<td>—</td>
</tr>
<tr>
<td>Virginia Beach, VA</td>
<td>1</td>
<td>24</td>
<td>2</td>
<td>—</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>229</td>
<td>16</td>
<td>211</td>
</tr>
</tbody>
</table>
The four districts provided demographic data for all students enrolled in READ 180 Universal. Bethel and CFISD provided demographic data for comparison samples of students. Table 2 provides an overview. Together, these groups of students comprised the main analytic sample for answering questions about differences between READ 180 Universal and comparison students.

Baseline equivalence analysis conducted on the READ 180 Universal and comparison students in CFISD and Bethel showed that the two samples were not equivalent on two of the demographic variables—the READ 180 Universal students had a slightly higher proportion of English learner and special education students. Additionally, State of Texas Assessments of Academic Readiness (STAAR™) scores for the READ 180 Universal and comparison students in Bethel and Cypress-Fairbanks were not equivalent with the comparison students demonstrating higher math and ELA scores. For cross-district analyses, state achievement data were converted to Z scores, and demographic and academic differences were controlled for in each of the outcomes analyses focused on Research Questions 1–3.

In addition to the main student sample, Bethel and CFISD provided demographic and achievement data for an additional sample consisting of all Grade 7 students within the six study schools in those districts (total N = 2,510). The additional data were used to assess the contrast in achievement levels between the study sample and the population (e.g., READ 180 Universal versus comparison versus non-study) and in part to compensate for the relatively small student sample.

### Implementation Measures

Multiple data sources informed answers to the research questions: teacher and student mindset surveys, student scores on their state English language arts tests, the HMH Reading Inventory, READ 180 Universal software usage logs, HMH Instructional Practice Inventories, and student and teacher focus groups and interviews.
Teacher and Student Mindset Surveys. The online surveys administered to teachers and students in fall 2016 and spring 2017 were assembled from two sets of items validated in previous research. The first items on each survey, which have been used extensively in research conducted by Dweck and her colleagues (Dweck, 2000), measure respondents’ mindset and theories of intelligence. The remaining items gauge goal orientation and its relation to learning environments; they were taken from the Patterns for Adaptive Learning Scales (PALS) (Midgley et al., 1998; Midgley et al., 2000), a compendium of valid and reliable items for use in research with adults and students.

Response rates for participants were strong.
- **Students**: fall 81 percent and spring 85 percent
- **Teachers**: fall 81 percent and spring 79 percent

Student Data. READ 180 Universal measures student achievement growth with the Reading Inventory, a computer adaptive test that reports students’ Lexile scores. HMH provided these data along with READ 180 Universal program use.

All districts also provided state reading/English language arts achievement scores for all READ 180 Universal students and for comparison and non-study students in Bethel and CFISD. Scores were converted to z-scores with a mean of 0 and a standard deviation of 1 for use in the analyses conducted to address relevant research questions.

Districts also provided demographic data for all READ 180 Universal students and for others included in their sample using secure file transfer methodology. Each student was assigned a unique identifier to ensure his or her confidentiality during analyses.

READ 180 Universal Software Usage Data. HMH also provided log files detailing students’ activities and level of engagement during the READ 180 Universal computer rotation and the number of segments completed. An auxiliary file summarizing information at the student level included data such as number of logins, number of 15-minute logins, average session time, and other student level metrics calculated from more granular data.

Focus Groups and Interview Data. READ 180 Universal teachers in CFISD participated in focus groups in fall 2016 and spring 2017, as did READ 180 Universal students in spring 2017. Additionally, Reading Workshop teachers were interviewed two times (fall 2016 and spring 2017) to learn about the comparison class, that is, the non-READ 180 Universal class provided for striving readers. Protocols used for these data collection efforts were designed to encourage participants to engage in semi-structured conversations about their experiences in and perceptions of READ 180 Universal. Comparison teachers were asked to talk about the Reading Workshop class and about their efforts to address the needs of striving readers.

HMH Implementation Practice Inventories. HMH provided AIR with the data collected by READ 180 Universal coaches, who observed classrooms and provided feedback to teachers on the new program. Coach visits were conducted monthly in CFISD and twice over the school year in the other districts. Coaches recorded their observations on Implementation Practice Inventories (or IPI forms), tallying specifically teachers’ attention to factors that are considered necessary conditions for “on model” implementation. AIR calculated the percentage of condition in place for each component to determine fidelity scores. These fidelity matrices are used by the HMH Professional Services team to measure the level of fidelity within READ 180 Universal classrooms:

- **High**: 80 percent or more of the components in place
- **Medium**: 60 to 79 percent of the components in place
- **Low**: less than 60 percent of the components in place

Although the coaches had the IPI forms to guide and record their observations, the completed forms varied in the level of detail they provided.

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4 These include the STAAR in Texas, Virginia Standards of Learning (SOL), and Smarter Balanced in Washington State.

3 For instance, students completing 35 segments would have 35 rows of data capturing the amount of time spent in each “zone,” relevant actions (e.g., help seeking, voluntary recording, and challenge seeking), and other action-based information (e.g., results from embedded quizzes).

4 All participants in focus groups and interviews were told about AIR’s procedures to maintain confidentiality and were asked to sign a statement that they had been informed of these procedures, could refuse to answer any questions, and could stop participation at any point. With teachers’ and students’ permission, all sessions were audio-recorded and transcribed for analysis.
Analytic Methodology

To assess the relationship between READ 180 Universal enrollment and changes in student mindset overall and for different subgroups (Research Questions 1 and 2), as well as to assess the relationship between mindset changes and achievement (Research Question 3), the research team estimated a series of three-level hierarchical linear models (HLMs) with students nested within classrooms nested within schools. Each model used prior achievement, race/ethnicity, English learner status, free/reduced-price lunch status, students with disabilities, and gender as covariates to control for observable baseline differences. The set of dependent variables in each model was change in mindset (as measured by the survey constructs). For Research Questions 1 and 2, the independent variable of interest was treatment status (enrollment in READ 180 Universal), and for Research Question 3, we used standardized end-of-year achievement as the primary independent variable.

Descriptive and correlational analyses of the IPI and student program use data were used to address the implementation research questions. As described previously, measures of implementation using IPI and student program use files were constructed to explore the correlation between these measures and the mindset and achievement data.

Standard qualitative research procedures guided the coding and analysis of the interview and focus group data (Corbin & Strauss, 2008; Creswell, 2009). These steps included developing a framework that mapped onto the underlying constructs targeted by the focus group and interview protocols, for example, satisfaction with READ 180 Universal, ways to make the program better, or perceptions of the outcomes of its use, both in terms of mindset and achievement. Transcripts of the focus groups and interviews were coded to identify themes and patterns, and data were stored using NVivo qualitative analytic software. After being coded by two researchers and discussed, data were interpreted and summarized to draw conclusions from the themes or patterns. Making inferences about what the data mean and how the themes relate to the research questions was the final stage of the analytic process.

RESULTS

Findings from this initial study of READ 180 Universal show promising results for the program. Highlights of the findings include the following:

- Change in growth mindset was greater for READ 180 Universal students than for comparison students, and the difference was approaching statistical significance
- Significant increases for growth mindset were found for subgroups of READ 180 Universal students in comparison to other striving readers:
  - More specifically, both English learner students and boys showed positive, statistically significant differences from those in the comparison group
  - Hispanic and Black READ 180 Universal students showed positive, statistically significant differences in mindset from those in the comparison group
- A small, significant correlation was found between academic achievement and growth mindset
- According to logs kept by READ 180 Universal coaches, fidelity of implementation was moderate, as might be expected with a new version of a familiar program
- Student computer use data revealed that, on average, students had approximately 43 15-minute logins throughout the year
- Focus groups conducted in one district with READ 180 Universal teachers and with READ 180 Universal students in fall 2016 and in spring 2017 provided valuable information about the new program and its focus on developing students’ growth mindset
Impact of Mindset Messaging

Research Question 1 examined the relationship between enrollment in READ 180 Universal and any changes in students’ mindset: Did students in READ 180 Universal experience greater growth in mindset than students not enrolled in the program over the course of the 2016–2017 school year? Analyses indicate that the change over time in growth mindset (as measured by Dweck’s scale) was greater for READ 180 Universal students than for comparison students. As indicated in Figure 1, READ 180 Universal students increased their growth mindset from 0 = Fixed to 5 = Growth by 0.25, about one-quarter standard deviation, whereas comparison students reported an increase of 0.10—adjusting for covariate balance; this difference is approximately 0.25 (p = .06).

Research Question 2 addressed changes that could be observed in various subgroups of the study’s student sample: Did subgroups of READ 180 Universal students experience greater growth in mindset than similar subgroups of students not enrolled in the program? To investigate this relationship, the research team divided the sample into subgroups, including the following:

- English learner students
- Students with disabilities (SWD)
- Students receiving free/reduced-price lunch
- Gender
- Race/ethnicity

These analyses mirrored those for Research Question 1, but were conducted for each subgroup. Differences in changes on the Dweck items for READ 180 Universal students classified as English learners and as boys showed positive, significant differences compared with those of the comparison group. In addition, significant differences were found for Hispanic and Black students. However, differences for students receiving special education services and those eligible for free/reduced-price lunch were not statistically significant. Unadjusted means for the significant findings (English learners, boys, Hispanic, and Black groups) are presented in Figure 2.
Research Question 3 introduces students’ academic achievement into the analyses by asking, What is the relationship between academic achievement and the survey measures of growth mindset? To address this question, the research team examined the correlations between scores on state achievement tests in reading, Lexile levels, and mindset scores for students enrolled in READ 180 Universal, comparison students, and the whole sample. These analyses revealed a small but significant relationship between students’ scores on the ELA portion of the state assessment and the academic self-efficacy along with how students answered and how students answered on the mindset survey, as can be seen in Table 3. Data were also provided on students’ course grades; no significant correlations were found.

### Table 3.
**Correlation of ELA State Assessment Scores and Changes in Fall and Spring Dweck and PAL Scores for READ 180 Universal and Comparison Students**

<table>
<thead>
<tr>
<th>State Assessment</th>
<th>Growth Mindset (as measured by Dweck)</th>
<th>Mastery Goal Orientation</th>
<th>Performance Goal Orientation</th>
<th>Academic Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELA Assessment 2016–2017</td>
<td>0.1204*</td>
<td>0.0131</td>
<td>-0.0282</td>
<td>0.1569**</td>
</tr>
</tbody>
</table>

* statistically significant (p ≤ 0.05); ** statistically significant (p ≤ 0.01)
Another measure of student achievement is changes in Lexile scores as measured by the Reading Inventory, as shown in Table 4. Again, the analyses of these data showed small, but significant correlations between students’ Lexile scores and growth mindset. As discussed in a later section, many participants in the CFISD student focus groups had made a clear conceptual link between growth in their academic mindset and growth in their Lexile levels while enrolled in READ 180 Universal.

**Research Question 4** concerns the correlation between student and teacher mindset, as well as teacher mindset and student achievement. The analyses focused on a small number of teachers (N = 8) in CFISD who took the survey at both time points and who also provided accurate identification information to be matched with their student data. The correlation between all the teacher survey constructs and all student survey constructs and achievement measures were examined; all correlations between teacher and student mindset were found to be near zero. Only the correlation between students’ Lexile levels and growth mindset (as measured on Dweck’s survey) was significant.

**Implementation Findings.**

Observations conducted by HMH READ 180 Universal coaches and logs of students’ activities during their daily computer rotation comprised the primary data sources for addressing **Research Question 5:** Are changes in students’ mindset associated with variations in program implementation and use?

**HMH Instructional Practices Inventory Findings.** Overall fidelity as measured by the Instructional Practices Inventories (IPIs) completed by the HMH coaches was moderate, with about 77 percent of all possible indicators marked across all IPI forms, with “Learning Environment” showing the highest rate of fidelity and “Writing” showing the lowest rate. Figure 3 indicates the fidelity percentage for each of the five IPI indicators.

To investigate possible correlations between variations in implementation and changes in students’ mindset, each fidelity measure was dichotomized into high and low categories (fidelity greater than or equal to the average of 77 percent was flagged as high; anything below 77 percent was low), and a t-test was used to compare changes over time between the two groups for each of the mindset constructs. This analysis showed no differences, suggesting variations in teacher implementation did not influence student mindset.

**READ 180 Universal Software Usage Data Files.** READ 180 Universal software usage data files provided details on how students were using the software and allowed for correlational analyses between program use and results of the student mindset survey.

Overall, students spent an average of about 25 hours logged into the software; however, there was a good amount of variation (SD = 10 hours), with some students logged in for less than four hours and others logged in for more than 45 hours. Almost half of the time students spent using the software was in the Fluency Zone (44 percent), and another 19 percent of the students’ time was spent in the Reading Zone. Figure 4 indicates the percentage of time spent in each zone.

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**TABLE 4. Correlation of Changes in Lexile Levels and Changes in Dweck and PALS Scores**

<table>
<thead>
<tr>
<th>State Assessment</th>
<th>Dweck Score Change</th>
<th>Mastery Goal Orientation Score Change</th>
<th>Performance Goal Orientation Score Change</th>
<th>PALS Academic Self Efficacy Score Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lexile Level for All Students</td>
<td>0.1457*</td>
<td>-0.0388</td>
<td>0.0364</td>
<td>0.0000</td>
</tr>
<tr>
<td>Lexile Level for READ 180 Universal</td>
<td>0.0666</td>
<td>-0.0628</td>
<td>-0.0173</td>
<td>-0.0483</td>
</tr>
<tr>
<td>Lexile Level for Comparison</td>
<td>0.1433</td>
<td>-0.0789</td>
<td>0.1060</td>
<td>0.0609</td>
</tr>
</tbody>
</table>

*Lexile level score outliers that are three standard deviations off from the mean were dropped from the analyses.
In addition to time spent per zone, the log files revealed login patterns and session information. Per the program model, typical rotations are 20 minutes, so one interesting usage statistic is the number of times a student logged into the computer for 15 minutes or more. On average, students had about 43 15-minute logins throughout the year (just under two per week). Figure 5 shows the number of segments completed by the students.

Exploratory correlational analyses allowed for further investigation into the correlations among implementation factors, mindset survey, and achievement outcomes. These analyses scan through all the possible combinations of log and outcome measures and statistically assess the relationship with each grouping. The process starts with a high correlational threshold (.75) and sequentially reduces this threshold so that the strongest relationships.

**FIGURE 3. Fidelity for Each Coach Log IPI Indicator**

- Learning Environment
- Academic Language
- Engaging With Text
- Assessment
- Writing

Source: Coach logs made available for the four districts.

**FIGURE 4. Percentage of Time Students Spent in Each Zone**

- Fluency Zone 44%
- Reading Zone 19%
- Language Zone 11%
- Explore Zone 6%
- Success Zone 13%
- Writing Zone 7%
are noted before weaker relationships are found. However, no large or significant correlations were identified through the process. The largest correlation observed (.41) was between the ELA end-of-year state test score and the percentage of questions that students answered correctly in the Learning Zone. All correlations between non-academic factors measured by the READ 180 Universal system (e.g., time spent, number of sessions, 15-minute logins) and outcomes (e.g., mindset and achievement) were below 0.15.

Because teachers in CFISD received monthly coaching (not just two visits during the school year), Research Question 6 asked: Are changes in teacher mindset for teachers receiving additional coaching significantly different from changes in mindset of READ 180 Universal teachers receiving less coaching and that of a matched sample of teachers not implementing READ 180?

The small sample of teachers within each group made it impossible to conduct comparisons for statistical differences between the groups of teachers. Instead, descriptive analysis was completed to determine how teacher mindset shifted across the school year. Overall, teachers’ mindset scores increased in the Dweck measure. Figure 6 provides the average scores and change for all teachers.
When specifically looking at READ 180 Universal teachers in CFISD, the change in scores on Dweck’s scale is greater than the overall teacher sample.

All teachers experienced an increase in growth mindset over the school year, and a stronger increase was demonstrated by the READ 180 Universal teachers in CFISD. It is important to note this increase could be attributed to multiple factors, including additional coaching sessions from HMH coaches, district-based approach to encouraging a growth mindset amongst their teachers, and other professional development teachers had attended.

Perceptions of READ 180 Universal (Qualitative Findings)

Teacher Focus Groups and Interviews. The Cypress-Fairbanks Independent School District, which serves two unincorporated areas within greater Houston, is the largest of the districts included in the READ 180 Universal mindset study and has the longest history of READ 180. Using protocols designed to encourage participants to share their perceptions about and experiences with the program and its mindset components, AIR researchers conducted fall and spring focus groups with CFISD READ 180 Universal teachers and interviews with the Reading Workshop teachers who work with striving readers not assigned to READ 180 sections.

What teachers like about READ 180 Universal:

- Chromebooks
  - Audio component
  - Vocabulary assistance
  - Reading out loud
- Support offered for English learner students and those with IEPs
- Engaging videos
- eReads—at a higher level for students
- Readings extend over two weeks vs. only one
- Library books that they continue to use
- Stronger “hooks” in topics of readings (e.g., Lincoln’s Killer)
- Mindset component—would like to see more threaded throughout the program
- More rigor but with more supporting activities

Student Focus Groups. Five focus groups, each lasting about 60 minutes, were conducted over two days with randomly selected middle school READ 180 Universal students in Cypress-Fairbanks. The focus groups were conducted in May 2017, after state reading testing was complete and shortly before school was to end for the year. Teachers had randomly selected five students to participate in each focus group. The students were a diverse group: 12 girls and 14 boys, mostly new to READ 180 as their reading program and primarily enrolled in Grade 7. The focus group protocols had been designed to encourage the students to talk about themselves as readers and students and to ask students about engagement in READ 180 Universal activities and with program materials.

What students like about READ 180 Universal:

- Chromebooks
  - Audio component
  - Vocabulary assistance
- Chromebooks good for taking quizzes
- Independence to make own selections, i.e., “get to control my own reading”
- Independent reading, which is “time to themselves” on Chromebooks or in paperbacks
- Student App—“learn about new things every day”
- Library books

It was very clear that many student focus group participants thought of themselves as readers, even if only in a limited way. They talked about reading at home, mentioning preferences for reading books or magazines; some said they had library cards but admitted they might not use them in the upcoming summer vacation. One recurring theme: Many students wanted “harder” books and books that were more relevant to their lives. Students mentioned the Bluford series\(^5\) frequently as an example of one kind of book they would like to read: that is, books about teenagers who encounter—and, on their own, solve—realistic problems. History books, books about minority groups, and romance books also were mentioned by students in every focus group. One student said she would like to read more about Nelson Mandela. Students also spoke enthusiastically about graphic novels and audio books.

\(^5\)See https://www.bluford.org/
Teachers’ and Students’ Ideas about Growth Mindset

READ 180 Universal teachers and students were asked about growth mindset, both in general terms and in relation to the mindset components of the program. Reading Workshop teachers were also asked about students’ development of social-emotional attributes such as perseverance, confidence, and resilience. Students said they remembered doing the “mindset survey” at the beginning of the school year and were clearly familiar with the term. Individuals’ definitions of “growth mindset” varied considerably, and it was unclear how attentive they had been to the “mindset messages” throughout READ 180 Universal. Students mentioned qualities such as determination, not being lazy, caring about one’s work, having goals, and accepting challenges as signs of a growth mindset. They said mindset referred to “how the brain works,” and that having a growth mindset meant “your brain starts getting better.” For many students, however, the “growth” part of growth mindset seemed to be increased Lexile scores, that is, being able to read books at higher Lexile levels.

When asked, the READ 180 Universal teachers were able to articulate a definition of a growth mindset, but they were not able to identify growth mindset materials/activities beyond the first unit and their classroom posters. Teachers recommended increasing the growth mindset activities in READ 180 Universal to occur weekly if possible. Interestingly, the Reading Workshop teachers were also quite articulate when asked for their ideas about the importance of students’ mindsets. One of the two Reading Workshop teachers said she sought to make her classroom a safe environment for the students, that is, “a place to escape.” In fact, both sets of teachers expressed similar ideas about how they, as middle school teachers, need to connect with their students on personal, as well as professional, levels. READ 180 Universal and Reading Workshop teachers all seemed completely comfortable with their students as individuals who were making the often-difficult transition from adolescence and the academic demands it places on students.

In many ways, the READ 180 Universal students’ comments provide the strongest evidence that their teachers had a deep understanding of their role in bolstering mindset. According to the students, teachers asked for their opinions and were interested in their lives outside of class. The students said they knew that their READ 180 Universal teachers “were there for them.”

The READ 180 Universal teachers said they recognize that students seem to equate growth mindset with score increases on the Reading Inventory—that is, increases in Lexile scores—and on the state reading achievement test and possibly the Spanish proficiency test. This parallels what students said. According to one teacher, increased Lexile measures “show them it’s working.” A few teachers mentioned the reverse—continued low achievement on standardized tests diminished students’ sense of themselves as having growth mindsets.

At the same time, this teacher-student connection is a good start in making students aware of their own mindsets, even if it suggests that students are externalizing the concept too much, rather than fully recognizing their own effort at improving their reading. The Reading Workshop teachers spoke about mindset in ways similar to the READ 180 Universal teachers; one maintained that she models a growth mindset for her students by setting high expectations and then supporting them as they achieve their goals with phrases such as “You can do it” or “You will do it. Don’t even say, ‘I can’t.’”
CONCLUSION

The READ 180 Universal mindset study explored the effectiveness and implementation of the most recent version of the program in terms of its mindset components, achievement of students enrolled in the program, and the teachers’ and students’ perception of READ 180 Universal. Data from four districts that introduced READ 180 Universal in the fall of 2016 informed the study, and qualitative data from teachers and students in one district provided contextual details.

READ 180 Universal and comparison students were surveyed in the fall and spring of the 2016–2017 school year to determine the extent to which they demonstrated a growth mindset. The spring survey data showed that over the course of the year, students in READ 180 Universal classrooms experienced greater gains in mindset than students in the comparison classes. Although the study was not designed to provide causal evidence, the differences point to the promise of the READ 180 Universal mindset messaging. In particular, English learners and boys experienced a significantly stronger shift toward a growth mindset than the comparison students. It is interesting to conjecture why the English learners scored higher on this scale. Many English learner students participating in the CFISD student focus groups spoke about the value of their READ 180 Universal work in other classes (i.e., math, science, and social studies). Although they may not have specifically equated READ 180 Universal participation with their growth in English language skills, they may have made such a connection subconsciously. Significant differences in growth mindset were also observed for Black and Hispanic students. This finding may have been influenced by the strong representation of these subgroups within the striving readers’ sample (17% and 47% respectively).

Additionally, positive gains and relationships were found for the academic achievement of students in the READ 180 Universal classes, providing promising results that the effect of enrollment in READ 180 Universal improves both reading skills and develops a stronger growth mindset.

Furthermore, qualitative results showed that both teachers and students liked numerous aspects of the new program (e.g., mindset messaging, flexibility of the program to fit students’ needs, and the tips and strategies built into the program). Teachers also thought that READ 180 Universal challenged their students while encouraging them to improve their literacy skills.

More importantly, CFISD teachers and students participating in the focus groups provided a glimpse into the positive influence of the READ 180 Universal classes to increase students’ and teachers’ mindset. Both teachers and students talked extensively about the relationships they had formed with each other. As though speaking for her colleagues, one READ 180 Universal teacher said that her students were all capable and willing and that her challenge was to “encourage them to find their motivation to learn.” A student had a parallel comment, noting that their teacher “motivates them not to be in READ 180 again.” All student focus group participants seemed to know that their teachers cared about them as people, not just as students passing through their classes for 90 minutes each day. And students were quite eloquent in telling us how much they cared about their teachers.

The rich and mutually supportive relationships created classroom environments that encouraged students to learn, picked them up when they made mistakes, and gave them opportunities to feel respected by teachers they admired and whose opinions they value (Berkowitz, Moore, Astor, & Benbenishty, 2017). Far too many students who eventually are classified as “striving readers” never get the kind of instructional support READ 180 has always provided, much less the warm and encouraging classrooms they need to move beyond their fixed mindsets and determination that they are not “good” at reading. Both quantitatively and qualitatively, the results of the study demonstrate positive results that are helping students become better readers and confident learners.
REFERENCES


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