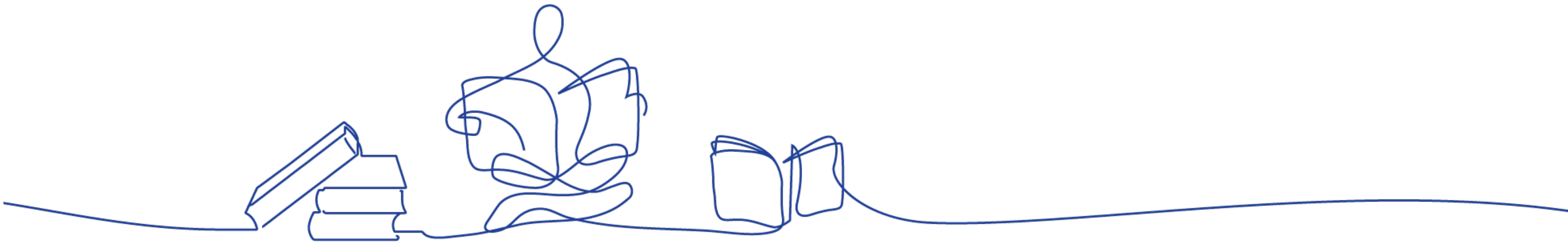

RESEARCH REPORT

Luke Waites Center for Dyslexia and Learning Disorders

Technical Report on Treatment Efficacy

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Dyslexia: A Treatable Learning Disorder

Dyslexia, the most common specific learning disability, causes difficulties with reading and spelling in approximately 7 percent of school age children (Peterson & Pennington, 2015). The definition of dyslexia has been modified with advances in research since the first consensus definition was formulated in 1968 by the World Federation of Neurology meeting at the Texas Scottish Rite Hospital for Children. The current definition specifies that children can be identified with dyslexia when they have problems accurately and efficiently sounding out (decoding) single words associated with difficulties processing the sound (phonological) structure of language (Lyon, Shaywitz and Shaywitz, 2003). Slow, inaccurate word reading leads to poor reading comprehension and is unexpected because most other cognitive and academic abilities are intact. The spelling problems of dyslexia contribute to difficulty acquiring proficiency in writing.

Definitions of dyslexia refer to the constitutional origin or intrinsic nature of the condition that represents an underlying neurobiological (brain) difference. Early postmortem (biopsy) studies and more recent neuroimaging research suggest that brain regions involved in word recognition have different function, structure, and connections in individuals with dyslexia (Shaywitz, Pugh, Jenner, Fulbright, Fletcher, Gore, and Shaywitz, 2000). Family and twin studies show strong genetic influence, suggesting the brain differences in dyslexia may be inherited (Olson, 2006).

Although the core phonological deficit of dyslexia may persist, most impaired readers can learn to improve their reading skills. Teaching that promotes the acquisition of sound (phonological) awareness, letter-sound decoding skills and other word-level and reading comprehension skills can reduce the number of children who would otherwise qualify for a diagnosis of dyslexia (Vellutino, Fletcher, Snowling, and Scanlon, 2004). Moreover, improvement in reading skill with remedial instruction has been shown to be associated with changes in neuroimaging patterns consistent with normalization of brain function when reading (Keller & Just, 2009; Simos, et al., 2002). One theory is that new networks are established between regions of the brain that support word recognition.

Dyslexia Intervention at Texas Scottish Rite Hospital for Children: Building on a Legacy

Alphabetic Phonics (AP) originated at Texas Scottish Rite Hospital for Children (TSRHC) in the mid-1960s as an expansion and organization of the Orton-Gillingham (O-G) multisensory approach for teaching children with dyslexia (Cox, 1985). The central feature of O-G and other phonologically-based programs is the systematic approach that is taken to establish a link between the alphabet and the language sounds (phonemes) it represents. In response to the requirement for intensive instruction for students with

dyslexia[1], the *Dyslexia Training Program* (DTP), an adaptation of AP, was created (Beckham and Biddle, 1989). Using a video format, the DTP provides intensive phonics instruction to children who may not have access to trained dyslexia teachers.
During the past 40 years, research has emerged that supports the O-G form of instruction for individuals with dyslexia (Ritchey and Goeke, 2006). Orton-Gillingham-based instruction has proven efficacy in reducing the central impairments in dyslexia, decoding and word recognition (Torgesen et al., 2006). The effectiveness specifically of the DTP has been evaluated in a comparison-control study (Oakland, Black, Stanford, Nussbaum, and Balise, 1998). That study, which met the scientific standards necessary to be included in the National Reading Panel Report (NICHD, 2000), found gains that were notably significant in word reading.

There is less evidence that phonologically based remedial instruction can improve reading fluency or reading comprehension (NICHD, 2000). Also, many students level off in their reading development after remediation or fail to apply word reading skills when working independently (Torgesen, Alexander, Wagner, Rashotte, Voeller, and Conway, 2001). These findings and program evaluation data collected at TSRHC were the stimuli for curriculum development that culminated in *Take Flight: A Comprehensive Intervention for Students with Dyslexia* (*Take Flight*) (Avrit et al., 2006).

Take Flight builds on the success of the DTP for teaching phonics skills while providing more guided reading practice toward accuracy and automaticity. Etymology and phonemic awareness are expanded and integrated within decoding and spelling instruction to more fully develop word analysis strategies. Reading fluency and reading comprehension are explicitly taught and are integrated into daily lesson plans. A combination of instructional techniques builds passage-level reading fluency by developing automaticity at the level of grapheme-phoneme correspondences, word recognition, and prosodic reading at the phrase, sentence, and passage level.

A Research-Based Program

The report of the National Reading Panel identified the research-proven components of effective reading instruction to be phonemic awareness, phonics, fluency, vocabulary and reading comprehension (NICHD 2000). *Take Flight* was designed using the scientific evidence that supports the importance of each of these five components. Skillful word reading largely depends on the ability to learn letter sounds, which requires sufficient phonemic (speech sound) awareness (Wagner and Torgesen, 1987). Intensive training in phonemic awareness and letter sounds (phonics) is critical for the child with dyslexia to acquire word identification, spelling and general reading ability (Vellutino and Scanlon,

[1] Texas Education Code 38.003

1987). **Phonemic awareness** training in *Take Flight* follows established procedures for explicitly teaching how articulatory gestures (i.e., lip, tongue, and teeth position) relate to sounds and spelling-sound patterns and how to manipulate sounds in analytic spelling and reading exercises (Olson, Wise and Ring, 1999). The **phonics** component of *Take Flight* was derived from the DTP. The effectiveness of the DTP was evident in the evaluation study cited by the National Reading Panel (Oakland et al., 1998). The important role of **reading fluency** (rate and proper expression) in the comprehension and motivation of readers has been well documented (Samuels, 2002). *Take Flight* fluency instruction uses research-supported directed practice in repeated reading (Meyer and Felton, 1999). However, modifications in the *Take Flight* approach have the additional potential to help students improve their fluency when reading newly encountered words by improving decoding accuracy. Standard repeated reading of continuous text results in fluency gains only in texts that contain practiced words (Faulkner and Levy, 1994). *Take Flight* structures fluency practice around texts which introduce reading concepts of increasing complexity in alignment with the student's progress through the sequential, cumulative curriculum. A combination of instructional techniques builds passage-level reading fluency by developing automaticity at the level of grapheme-phoneme correspondences, word recognition, and prosodic reading at the phrase, sentence, and then passage level. In a comparison study, students receiving fluency instruction derived from *Take Flight* methods demonstrated similar gains to those in a continuous-text reading fluency program, with added benefits in reading accuracy (Ring, Barefoot, Avrit, Brown, & Black, 2013). Vocabulary knowledge is strongly related to reading skill development. **Vocabulary** instruction in *Take Flight* features multiple word learning strategies (definitional, structural, contextual) and explicit teaching techniques with application in text shown to promote **reading comprehension** (Bryant, Goodwin, Bryant, and Higgins, 2003). Formal instruction in the application of comprehension strategies also has been shown to be effective in improving reading comprehension. *Take Flight* employs a multiple-strategy approach for reading comprehension instruction in a variety of contexts that combines methods that have the support of scientific evidence (i.e., cooperative learning, graphic organizers, story structure, question generation and answering, summarization, comprehension monitoring; NICHD, 2000). The systematic introduction of strategies, teacher modeling, guided practice and student-led group instruction follows the Reciprocal Teaching (Palincsar and Brown, 1984) and Collaborative Strategic Reading (Vaughn, Klingner, & Bryant, 2001) models of comprehension instruction. For a detailed description of the *Take Flight* curriculum, see Ring, Avrit, & Black, 2017.

Take Flight Treatment Effects

Evaluations of treatment effects with students attending the TSRHC Dyslexia Laboratory and dyslexia programs in public schools are described and summarized below.

Dyslexia Laboratory

The Dyslexia Laboratory at TSRHC provides treatment services for local students with dyslexia who do not have access to adequate treatment options in their own schools. When Dyslexia Laboratory instruction began in 1967, the curriculum was *Alphabetic Phonics* and by 1987 had progressed to the *Dyslexia Training Program*. Since 2006, the curriculum has been *Take Flight*. Current students come to the hospital for class four days per week for two academic years. The *Take Flight* instruction at the laboratory is delivered by Certified Academic Language Therapists in small groups of two to four students for 90 minutes each day. Enrollment is currently 20 children each year on average.

Descriptive data of reading skill development were collected from students receiving *Take Flight* instruction at the laboratory. Students were tested three times during the intervention: a baseline assessment, after one year of instruction and when treatment concluded at the end of the second year. Follow-up data were collected from a subset of the sample for four years post-treatment to document long-term effects after treatment.

Take Flight improved upon previous versions of *Alphabetic Phonics*-based instruction provided at TSRHC by including specific treatment components for reading rate/fluency and comprehension (Ring et al., 2017). Additional reading data from students who received the *Dyslexia Training Program* instruction at the Dyslexia Laboratory are also presented to illustrate differential treatment outcomes of the added components.

Participants

The data on *Take Flight* treatment effects were collected from seven consecutive cohorts of students at the Dyslexia Laboratory; the last group graduated in May 2011. The *Take Flight* sample includes 113 children (51 females) in Grades 2 through 7 (Median: Grade 4). All students had a diagnosis of developmental dyslexia from the Luke Waites Center for Dyslexia and Learning Disorders at TSRHC.

Results

Main Effects. Summary statistics of phonological awareness[2], word decoding[3], word reading[4], reading comprehension[4], reading efficiency[5], oral reading[6], and math skills[4] are shown in Figure 1. The data show the sample's mean skill levels at the beginning of treatment and observed gains in norm-referenced standard scores after the two-year *Take Flight* treatment. The data in Figure 1 indicate several important observations about the sample at the laboratory and the intervention outcome.

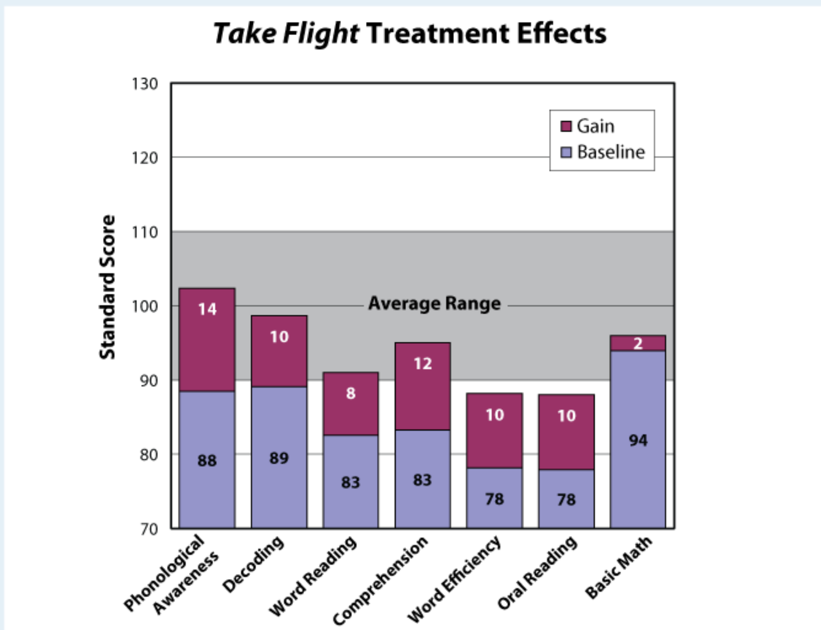

Figure 1. Average Baseline Levels and Gains at Post-test

First, at baseline the sample was below the average range (i.e., 90-109 SS) in phonological processing and reading skills, particularly word and text reading efficiency, but showed average arithmetic abilities. Observed gains after treatment were statistically and clinically significant for phonological awareness and all reading skills, bringing the sample within, or close to, the average range Wilks'Λ = .22, $F_{(6, 95)} = 54.63$, $p < .0001$, $\eta = .78$. The modest gains in arithmetic skill suggest that observed treatment effects were specific to

[2] Comprehensive Test of Phonological Processing (ProEd, Inc.)
[3] Woodcock Reading Mastery Test (American Guidance Services)
[4] Wechsler Individual Achievement Test (PsychCorp)
[5] Test of Word Reading Efficiency (ProEd, Inc.)
[6] Gray Oral Reading Test (ProEd, Inc.)

the domain of reading and related skills and could not be readily attributed to effects of smaller classes and/or increased teacher attention.

An alternate account of both the observed gains in reading and comparatively modest growth in math skills is that both could be explained by effects of regression-to-the-mean (e.g., Weeks, 2007). In the absence of data from a randomized-control clinical trial, it is difficult to separate confounding artifacts of regression with real treatment effects. However, data collected from clinical evaluations that documented the diagnosis of developmental dyslexia in this sample permits one way to assess regression effect sizes.

Briefly, the analysis is an adaptation of an interrupted time-series design. Patients were initially assessed in the TSRHC Dyslexia Evaluation Center an average of nine months prior to beginning treatment. The months between initial evaluation and the treatment baseline evaluation thus provide a contrast of differences in growth observed between a pre-treatment 'control' period and the subsequent two years of intervention.

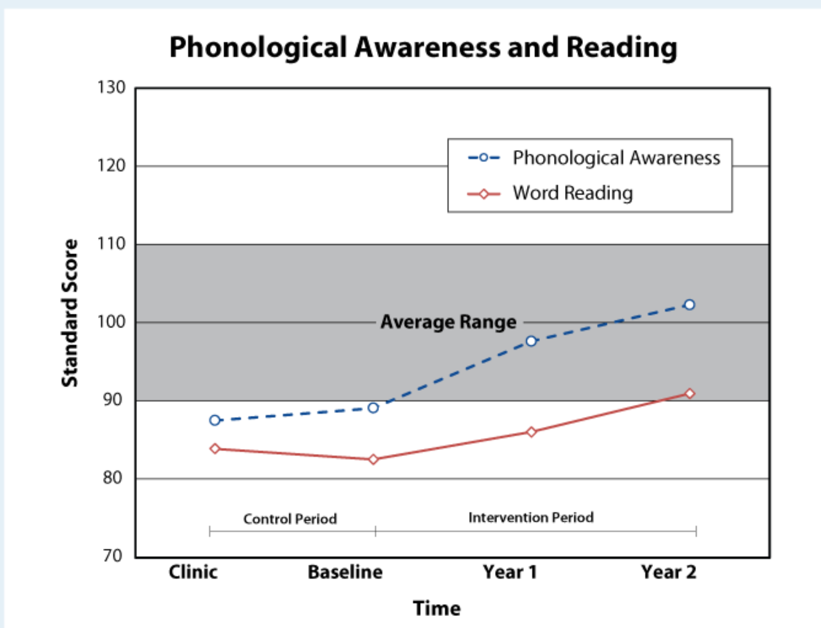

Figure 2. Development of Reading and Related Skills

Figure 2 shows average phonological awareness and word identification standard scores from a subset of the sample with sufficient data points for the analyses (n = 105). The observed trends indicate a significant inflection in the average growth curves at the point of intervention. Repeated-measures profile analyses confirmed that there were no significant gains in phonological awareness, $F_{(1, 96)} = 3.2$, $p = .08$, $\eta^2 = .03$ over the pre-intervention 'control' period from clinic diagnosis to baseline evaluation. The data also show that relative word identification decreased over the same period, $F_{(1, 104)} = 5.7$, $p = .02$, $\eta^2 = .05$. In contrast, significant development in phonological awareness was observed from baseline to end of Year 1, $F_{(1, 96)} = 72.9$, $p = .0001$, $\eta^2 = .43$, and continues through the end of Year 2, $F_{(1, 96)} = 22.3$, $p = .0001$, $\eta^2 = .19$. The analysis of word recognition growth showed a similar increase at the onset of treatment through the end of Year 1, $F_{(1, 104)} = 33.8$, $p = .0001$, $\eta^2 = .25$, and during Year 2, $F_{(1, 104)} = 46.7$, $p = .0001$, $\eta^2 = .31$.

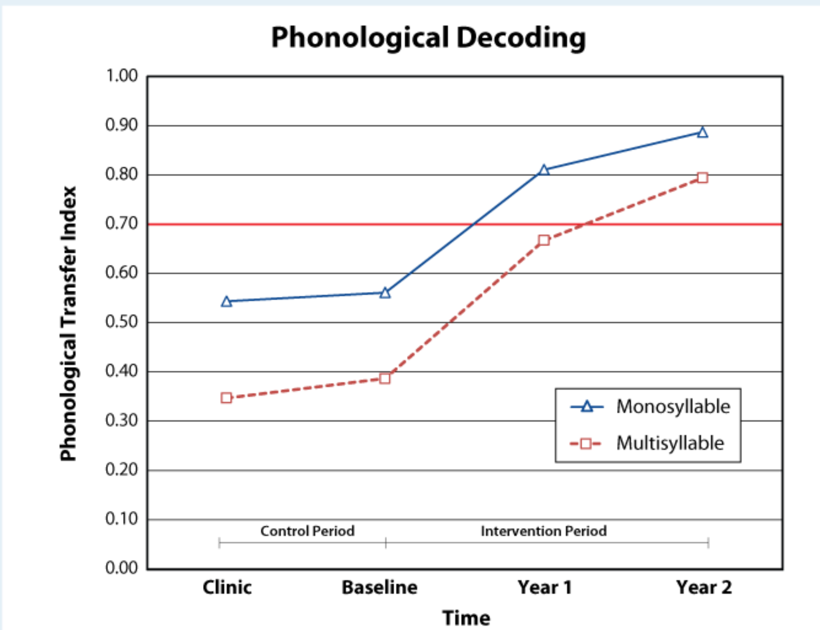

Figure 3. Decoding Ability from Clinic through Post-test

The analyses of growth in phonological decoding skills on a criterion-referenced measure of pseudoword reading[7] showed a similar pattern of little growth prior to intervention followed by significant growth after the onset of treatment. Note that the criterion of .70 indicates adequate decoding ability on this measure. Analyses of the data shown in Figure 3 indicated modest growth prior to intervention in both monosyllable, $F_{(1,76)} < 1$, $p = .44$, $\eta^2 = .01$, and multisyllable pseudoword decoding, $F_{(1, 56)} = 2.8$, $p = .10$, $\eta^2 = .05$. In contrast, participants showed significant gains in both monosyllable, $F_{(1,76)} = 147.4$, $p = .0001$, $\eta^2 =$

[7] Decoding Skills Test (WPS, Inc.)

.66, and multisyllable decoding, $F_{(1, 56)}$ = 63.6, p = .0001, η^2 = .53, during the first year of treatment. Those gains continued through the second year of treatment on both measures of decoding, $F_{(1,76)}$ = 34.1, p = .0001, η^2 = .31, and, $F_{(1, 56)}$ = 42.6, p = .0001, η^2 = .43, respectively.

Comparative Effects. *Take Flight* differs from previous curricula at TSRHC with the inclusion of specific instruction to develop reading fluency and comprehension. Descriptive data from a sample of students who received treatment at the laboratory with the *Dyslexia Training Program*, a program that did not include those specific components, are added for comparative purposes.

The historical control data were taken from a sample of 25 students (11 female) from Grades 3 through 7 (Median: Grade 5). The students were from two consecutive cohorts in the lab; the last group graduated in May 2002. All students in this historical control sample also had a diagnosis of developmental dyslexia from the Luke Waites Center for Dyslexia and Learning Disorders Diagnostic Clinic. The DTP intervention was delivered by Certified Academic Language Therapists. The intervention was of equal duration and intensity as the *Take Flight* intervention.

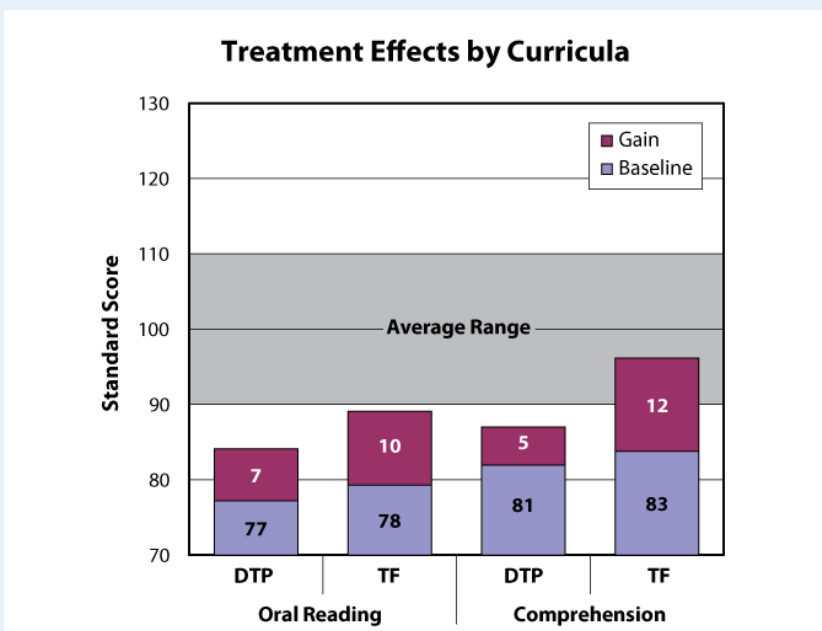

Figure 4. Oral Reading and Reading Comprehension by Curricula

Figure 4 presents data from standardized measures of oral reading[8] and silent reading comprehension. The data show significant improvements in both oral reading skill and reading comprehension for students receiving both curricula, $F_{(1, 115)} = 14.4$ $p = .0001$, $\eta^2 = .11$; $F_{(1, 124)} = 34.9$, $p = .0001$, $\eta^2 = .22$, respectively. Additionally, the *Take Flight* sample shows significantly larger growth in reading comprehension relative to students who received DTP instruction, $F_{(1, 124)} = 6.0$, $p = .02$, $\eta^2 = .05$. The *Take Flight* sample showed an advantage in growth of oral reading skill but that difference was not statistically reliable.

Longitudinal Effects. Post-treatment evaluation is important for documenting immediate effects of treatment. However, longitudinal data collected months or years after treatment are needed to provide evidence that treatment outcomes are durable. Follow-up data on *Take Flight* was collected annually for four years after treatment from 68 former students (25 female) of a total sample of 81 graduates in the last five lab groups eligible for follow-up assessment. Figure 5 presents word recognition and reading comprehension outcomes in standard scores over the intervention and at each of the four follow-up evaluations.

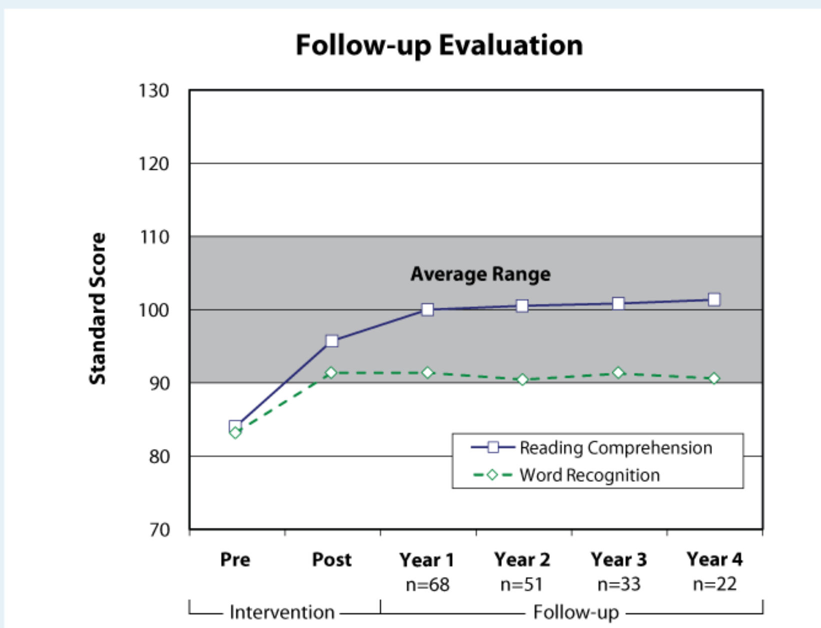

Figure 5. Comprehension and Word Reading Development After Treatment

[8] DTP sample with oral reading data is 10 of 25 possible participants

The follow-up data suggest several important conclusions about the long-term effects of *Take Flight*. The significant rate of growth in reading comprehension skill continues post-treatment and the group average is approaching the population average of 100 SS at one year follow-up, $F_{(1, 66)} = 10.1$, $p = .002$, $\eta^2 = .13$. Word recognition skill shows a different developmental pattern. The rate of growth observed during the intervention period slows after treatment concludes and is no longer statistically significant, $F_{(1, 67)} < 1$, $p = .97$, $\eta^2 = .00$. The reported data are in standard scores; therefore, the observed result suggests that although growth rates were slower, the students' word recognition skills still developed at the same rate as their same age peers for the one year after treatment.

The data from 51 students who returned for a second follow-up evaluation show that observed growth in reading comprehension slows and is no longer statistically significant relative to the first year follow-up status, $F_{(1, 50)} < 1$, $p = .83$, $\eta^2 = .00$. Although statistically non-significant, the data suggests that the reading comprehension skills of students in the follow-up sample continue to improve at similar rates as their same-aged peers.

The data presented in Figure 5 indicate that the developmental patterns observed in the second year after treatment continue for the remainder of the follow-up evaluations for both reading comprehension and word reading ability. Taken as a whole, the data suggest a pattern of maintenance of treatment effects up to four years after treatment.

Dyslexia Lab Summary

The data show that in the relatively well-controlled environment of the lab at TSRHC, children receiving *Take Flight* instruction show statistically and, more importantly, clinically significant growth in all areas of reading. At the conclusion of treatment, children were within the average range in decoding, word reading and comprehension. Final status of word and text reading efficiency was lower, but still very near the low average range. Moreover, the significant contrast of growth during treatment with the nine-month period before the beginning of the intervention suggests that the observed outcomes were specific to the treatment and not due to regression artifact or general developmental effects. Historical comparisons of reading growth from *Take Flight* instruction with the Dyslexia Training Program instruction provide suggestive evidence for the efficacy of the added comprehension and reading rate instruction. Finally, longitudinal results indicate that during the first year after treatment, these children maintained the word recognition gains and continued to show additional significant growth in reading comprehension. The remaining follow-up assessments showed that treatment gains continued to be maintained up to four years post-treatment.

Field Evaluation 1

The data collected in the lab at TSRHC provide some evidence of treatment outcomes. However, the lab is a controlled environment with limited enrollment. The majority of students who will receive instruction in *Take Flight* will be students who are served by their school's dyslexia program. For this reason, it is necessary to document the effects of *Take Flight* as implemented in routine practice.

Descriptive data of *Take Flight* treatment effects were collected from several Texas school districts that used the curriculum for their state-mandated dyslexia program. Fifty-nine public school children (29 female) in Grades 3 to Grade 5 (Median: Grade 3) participated in the study. All students enrolled in the field study were identified according to their respective school districts' referral process and their instruction delivered by the school districts' dyslexia program personnel. Figure 6 shows baseline levels and treatment gains on academic measures after two academic years of instruction. Data from the Dyslexia Lab sample are added for comparison.

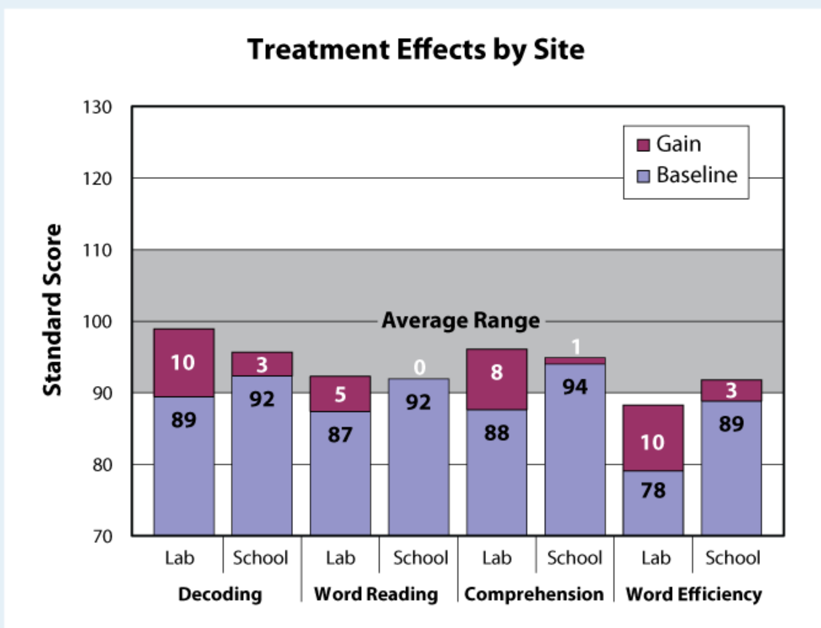

Figure 6. Treatment Effects in Dyslexia Lab and Public School Samples

The results in Figure 6 show several important differences between the lab and school samples. First, the school sample average was significantly higher at baseline on measures of decoding[3], word recognition[3], comprehension[3], and word reading efficiency[5], Wilks' Λ = .9, $F_{(4, 164)} = 4.38$, $p = .002$, $\eta^2 = .09$. In addition, treatment effects after the intervention were statistically smaller than those observed in the lab, Wilks' Λ = .76, $F_{(4, 164)} = 13.2$, $p = .0001$, $\eta^2 = .24$. Although the gains observed in the school sample were rather modest, these results are reported in standard scores; for this reason, the reading skills of the school sample should be interpreted as progressing at the same rate or, in some cases, faster than their same age peers.

However, the data presented in Figure 6 show scores averaged across the entire sample. Significant variation was observed in both baseline levels and treatment effects in the school sample. More specifically, baseline reading skills for significant numbers of students in the school sample were within the average range (90 – 109 SS on the test instrument) for word reading (73%), phonological decoding (80%) and reading comprehension (76%). Moreover, examination of growth curves for each individual student showed a relatively consistent pattern where students with lower scores at baseline tended to show larger gains during treatment.

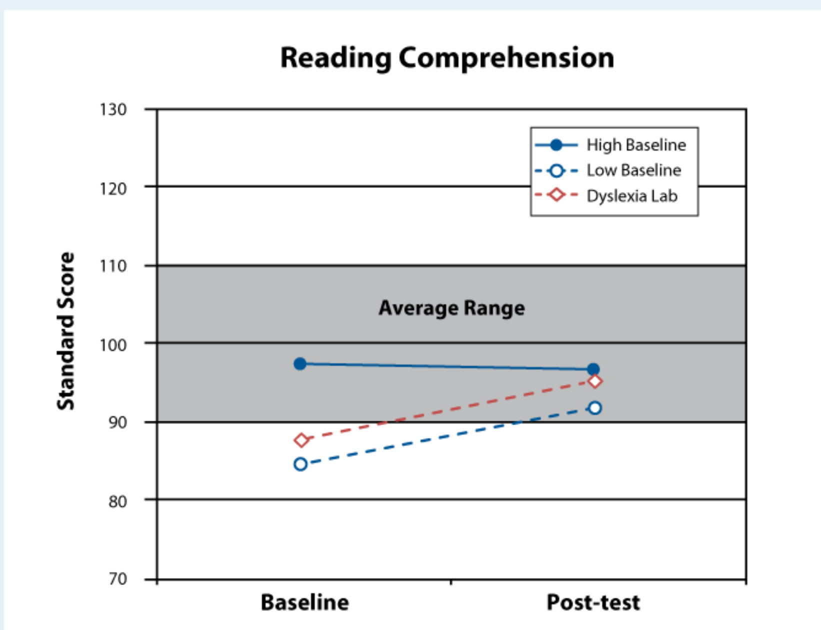

Figure 7. Treatment Effects as a Function of Baseline Skill

Figure 7 illustrates this effect of individual differences in reading comprehension. The figure shows relatively little additional growth during treatment for students whose reading comprehension skills were in the average range when measured at baseline. Note that those results are reported in standard scores and that those students' average scores are already near the population average. In contrast, students with below average baseline skills present a different developmental profile with significantly stronger growth in reading comprehension, $F_{(1, 57)}$ =17.7, p = .0001, η^2 = .23. A similar pattern of differential treatment response was also observed in the development of phonological decoding skills, $F_{(1, 57)}$ = 4.9, p = .03, η^2 = .08. Students with more severe reading impairments derived greater benefit from treatment and, as shown in Figure 6, those gains are similar to effects observed in the Dyslexia Lab sample on the same measure of comprehension.

Field Evaluation 1 Conclusions

The results from Field Evaluation 1 suggest there is some generalization of *Take Flight* treatment effectiveness outside the lab environment, although that efficacy is more modest and variable. Specifically, the treatment seems to be most beneficial for students with relatively weaker skills at the onset of intervention. In addition to variability in the reading skills of students at the beginning of treatment, reasons for the differential effects compared with the Dyslexia Lab results may also be attributed to other factors that are difficult to control within a school environment, including co-existing problems, class size, and variable contact time. However, data were not collected that might answer the question of which factors were important moderators of treatment response.

Addendum: Field Evaluation 2

Implementing evidence-based interventions in routine practice such as in public schools presents numerous challenges (Klingner, Boardmann, & McMaster, 2013). One of the central issues concerns implementation fidelity, that is, the degree that the intervention program is delivered as it was originally designed and tested (e.g., O'Donnell, 2008). The lesson scope and sequence of *Take Flight* was designed for children experiencing difficulties with phonological decoding and learning the structure of written language. Many of the students in the first field evaluation had reading skills in the average range, which may have limited the amount their basic word reading skills could benefit from the curriculum's lessons.

For this reason, a second study of the effectiveness of *Take Flight* was conducted in a large suburban public school district. A sample of 141 participating students (76 female) in Grades 1-6 (Median: 3) participated in the field study. All services were provided by the school district's dyslexia program, and importantly, these students received instruction in a well-structured and supported dyslexia program, which implemented evidence-based practices in the identification and treatment of dyslexia.

Results presented in Figure 8 suggest *Take Flight* is a highly effective intervention when implemented in a public school setting with high fidelity to process and structure. Students in this sample demonstrated significant gains across reading skills over the course of the intervention, Wilks' $\Lambda = .45$, $F_{(7,134)} = 23.6$, $p < .0001$, $\eta^2 = .55$. Similar to the Dyslexia Laboratory sample, multivariate analysis of treatment outcomes indicated that students participating in Field Evaluation 2 showed significant growth on measures of Word Identification and Word Attack and an untimed measure of Passage Comprehension after two years of *Take Flight* instruction. Text reading accuracy, comprehension and spelling also improved at a statistically significant level after instruction, though the response was not as robust for spelling as for word reading skills. Oral reading fluency improved at a rate consistent with age-equivalent expectancies, as evidenced by no change in standard score relative to age at baseline and the end of treatment. However, in consideration of the robust improvements seen at the word level as well as increases in passage reading accuracy, this finding suggests that although passage reading speed did not improve at a rate greater than their peers, reading speed was maintained while significant improvements in accuracy allowed for more successful reading of continuous texts overall.

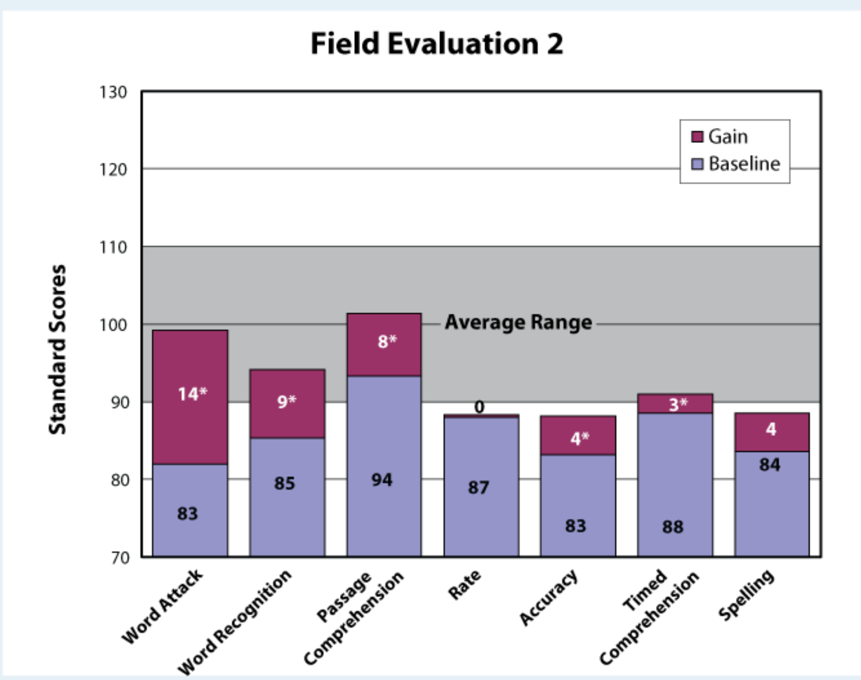

Figure 8. Average Baseline Levels and Growth in Routine Practice

General Summary and Conclusions

The data reported from children that received *Take Flight* instruction showed significant growth in all areas of reading after completing the program. In addition, pre-intervention testing showed that there was little reading growth prior to the onset of treatment. Comparisons with a historical sample from the Dyslexia Lab suggested that students benefitted from the added comprehension, and to a lesser extent, reading rate instruction. Furthermore, longitudinal data showed that students in the Dyslexia Lab maintained the word recognition and reading comprehension gains for four years after treatment.

Two field studies examined the effectiveness of implementing *Take Flight* in public school environments and found significant, but differential effects on word reading, decoding, and reading comprehension skills. The differences across field evaluation study results is interpreted as reflecting the benefit of a well-implemented Response to Intervention program, in which the children identified as eligible for Tier 3 dyslexia services are severely impaired readers for whom less intensive reading remediation was not appropriate or successful. The sample of students evaluated in Field Study 1 may have included students who would have benefitted from a Tier 2 or other reading intervention program (i.e., the high baseline students), and thus did not show a similar pattern of response to those who were truly deficient in reading skills prior to receiving the intervention.

Limitations

The only way to definitively document treatment effectiveness is in a randomized clinical trial. The data presented in this summary were not collected from studies of that design. The time-series data, however, support the effectiveness of the *Take Flight* compared to no intervention. Moreover, norm-referenced standardized measures such as those used for these evaluations also provide a baseline to compare observed treatment effects against expected reading development for typical children.

In summary, these data show that *Take Flight* has a beneficial impact on the reading skills of children with significant reading difficulties, both in a laboratory setting and routine practice. Future research will determine how well *Take Flight* compares with comparable alternative treatments and what components of the curriculum are responsible for observed outcomes.

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