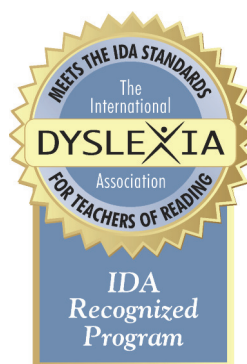


Children's Dyslexia Centers, Inc.

A Scottish Rite Charity since 1994



Research Summary 2013



www.ChildrensDyslexiaCenters.org

Background

Dyslexia is the most common learning disability, found in about 10-15% of the population (some scientists and researchers estimate that up to 20% of the population has dyslexia). Dyslexia is language-based and affects the way in which children learn to read, spell, and write. Scientific research leads researchers to believe that dyslexia is a result of a difference in how the brain processes information. Dyslexia affects boys and girls equally and is inherited. Children with dyslexia tend to have average or above average intelligence. There is no cure for dyslexia and it has lifelong implications. Based on early research into this learning difference, providing a multisensory, structured approach to language instruction by qualified professionals can result in improved reading, spelling, and writing skills.

The definition of dyslexia, as adopted by the International Dyslexia Association (IDA) and the National Institute of Child Health and Human Development (NICHD) is as follows:

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge.

Every day, children with dyslexia attend school, struggling in all areas due to difficulty learning to read, write, and spell. These children are often frustrated by their daily struggles which may extend beyond academic difficulties into social and emotional difficulties. Children who do not succeed in school often develop emotional and/or behavioral issues, drop out of high school, work in low-paying jobs, develop substance abuse issues, and end up in our prison systems. Dyslexia can be remediated successfully by properly trained professionals. Early identification for children at risk of having difficulty learning to read and early intervention allow children the best opportunities for bright futures.

For over two decades, the Scottish Rite Masons, Northern Masonic Jurisdiction, have been national leaders in the effort to help children and their families overcome the painful obstacles of dyslexia. With more than 45 active Dyslexia Centers in 13 states, the Children's Dyslexia Centers tackle the challenge of dyslexia head-on, both by providing an educational treatment for children with dyslexia and training qualified individuals to be highly skilled and dedicated tutors.

In addition, the Children's Dyslexia Centers, Inc. has been collecting data on the program since it was founded. The data can be provided to scientific and educational researchers. In July 2011, the Children's Dyslexia Centers, Inc. granted permission for an independent team of researchers to analyze the intake assessments (conducted by qualified professionals outside our organization) and baseline and progress assessments (conducted by qualified personnel from our Centers). The research team consisted of G. Reid Lyon, Ph. D., Angela Dougall, Anna E. Fitzhugh, and Timothy N. Odegard, Ph. D. The team's focus

was on identifying different cognitive profiles in children to see if there was a difference in how those children responded to the educational treatment provided at the Centers. The research team had 1075 children who had participated in the program for two years for their final sample. Children attend 50-minute tutoring sessions twice a week, averaging about 100 hours of instruction in two years.

Assessments

Children who attend the Children's Dyslexia Centers have baseline and annual progress assessments done using the following assessments:

Woodcock Reading Mastery Test III (WMRT-III)

Test of Written Spelling 4 (TWS-4)

Test of Word Reading Efficiency 2 (TOWRE-2)

Comprehensive Test of Phonological Processing 2 (CTOPP-2)

Results*

The current analyses investigated growth in students' performance across five written language skills monitored during the course of reading intervention: single word identification, phonological decoding, reading fluency, reading comprehension, and spelling.

Longitudinal analyses revealed significant gains over time for all measured reading abilities; however, differential levels of ability were noted across reading outcomes. In general, students closed the gap with their age-equivalent peers on most measures, moving from below-average scores on standardized reading assessments at baseline to near average or average-range scores after one to two years of instruction. After one year of intervention, mean student scores advanced into the average age-based range of ability for decoding and passage comprehension. These scores continued to increase during the second year and were the strongest of the five measures of written language skills at the end of the 2-year period. Although these skills were relatively strong at baseline, significant gains were made over the course of the program. These findings suggest a highly responsive nature of these skills to the type of explicit individualized instruction provided by the Children's Dyslexia Centers. Conversely, for word identification, reading fluency, and spelling, although significant gains are reported for all three measures, student means remained below the average range by the end of treatment. These skills have been suggested to be less responsive to intervention, and may take additional instruction and/or practice to fully remediate. Taken together, findings suggest that the method of instruction used in the current intervention is effective at increasing the accuracy with which students are reading, as well as their ability to glean information from the text. These findings support the use of sequential, multisensory phonics-based programs in remediating reading difficulties, regardless of diagnosis or cognitive profile.

*A. E. Fitzhugh, T. N. Odegard, and G. R. Lyon (2013). *Variations in the cognitive profiles of children with reading disabilities and response to instruction*. Unpublished manuscript. Presented at the International Dyslexia Association's Annual Conference, Nov. 7, 2013, New Orleans, LA.

Key Findings:

- **Students receiving remedial reading instruction from the Children’s Dyslexia Centers showed significant growth in all reading and writing skills**
 - **Word Identification**
 - **Word Attack**
 - **Comprehension**
 - **Fluency**
 - **Spelling**
- **Students exhibited greatest gains in word attack and spelling, which are crucial skills in fostering accurate independent reading and writing ability.**
- **Significant gains in all skills were made over the first year of treatment, as well as continued gains throughout the second year.**
- **Within the first year of treatment, average student performance on Word Attack and Comprehension advanced into the average range for their age group.**

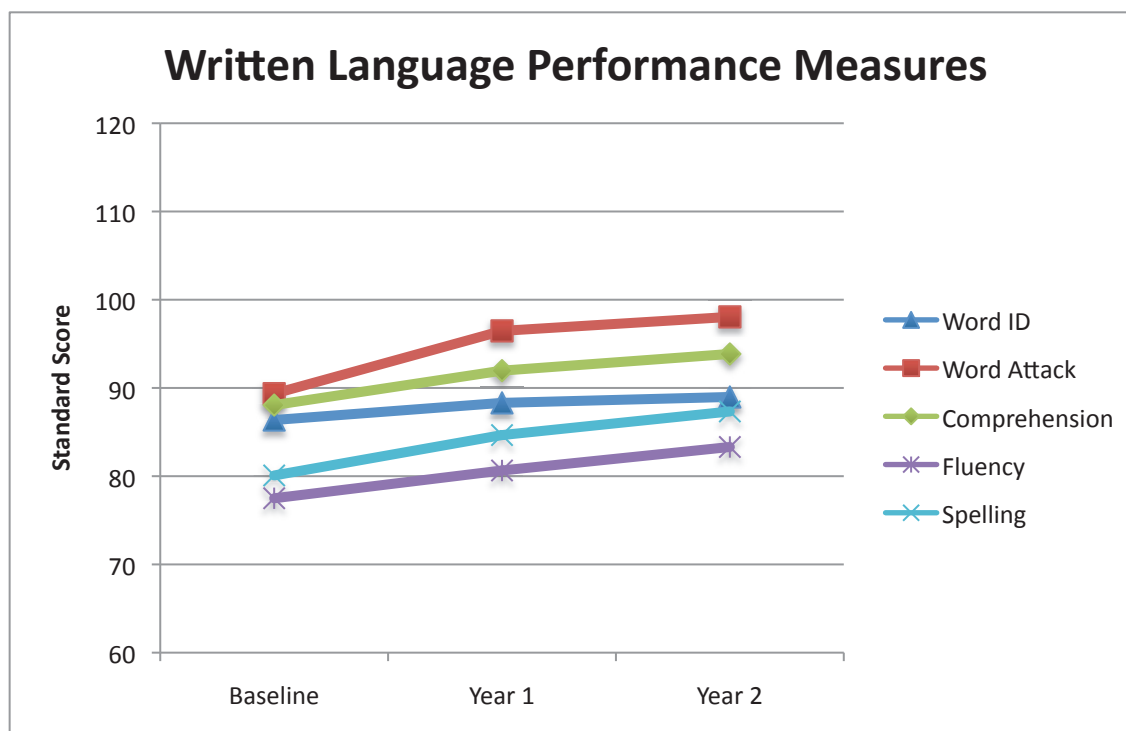


Figure 1a. Linear representation of student means across treatment.

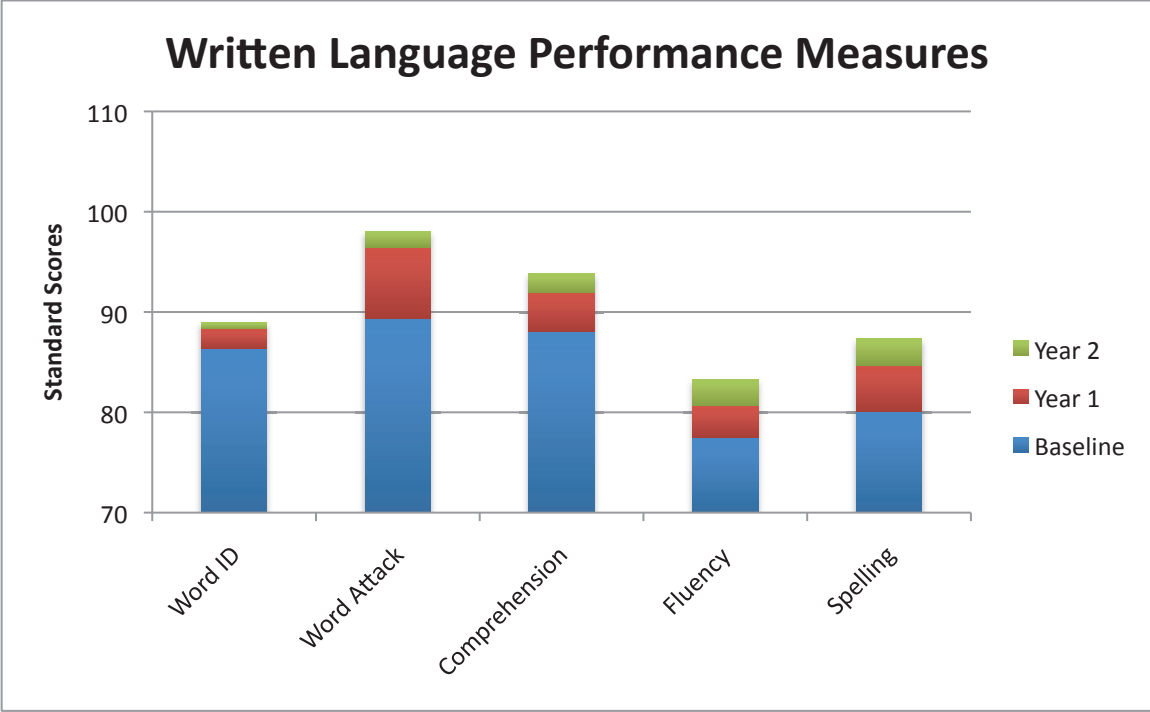


Figure 1b. Additive depiction of student scores and growth over the course of intervention.

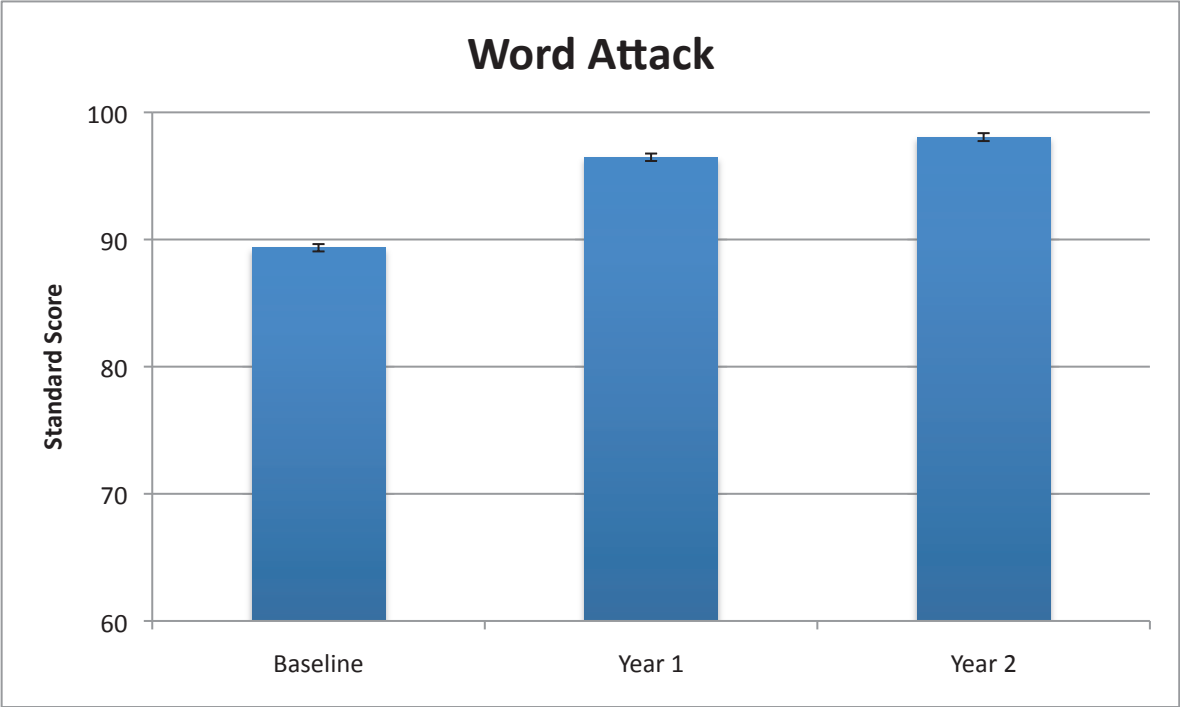


Figure 2. Average student scores for phonological decoding over the course of treatment.

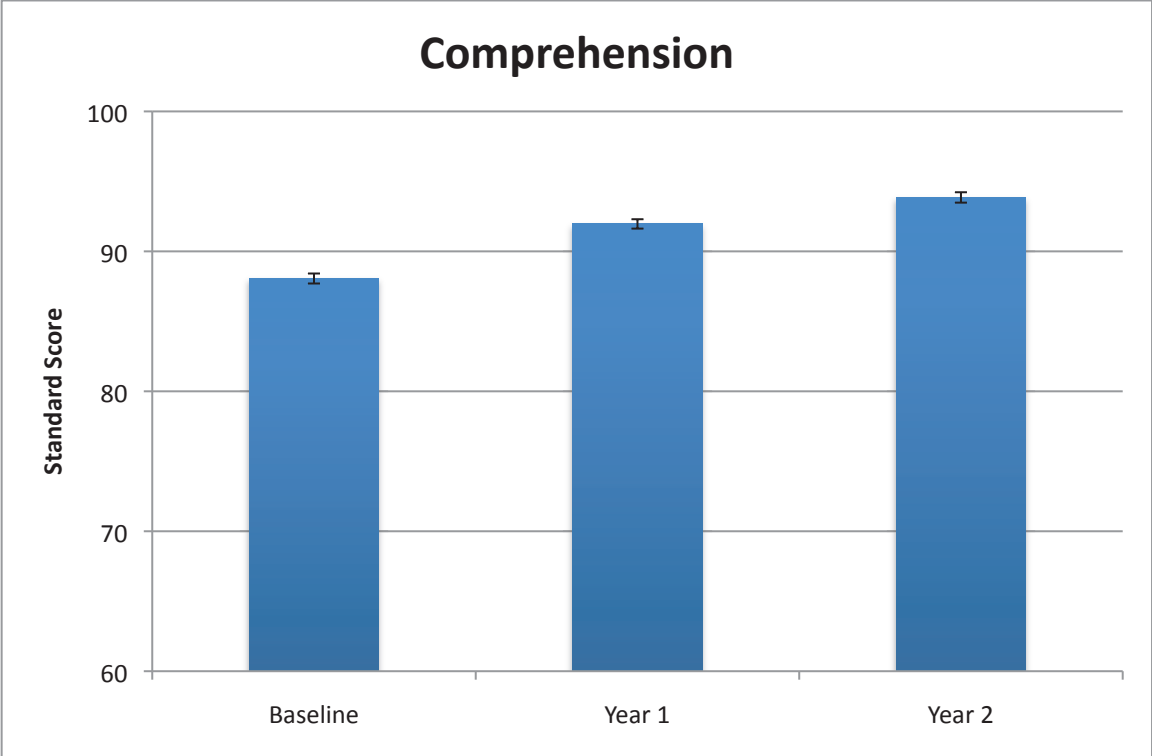


Figure 3. Average student scores for reading comprehension over the course of treatment.

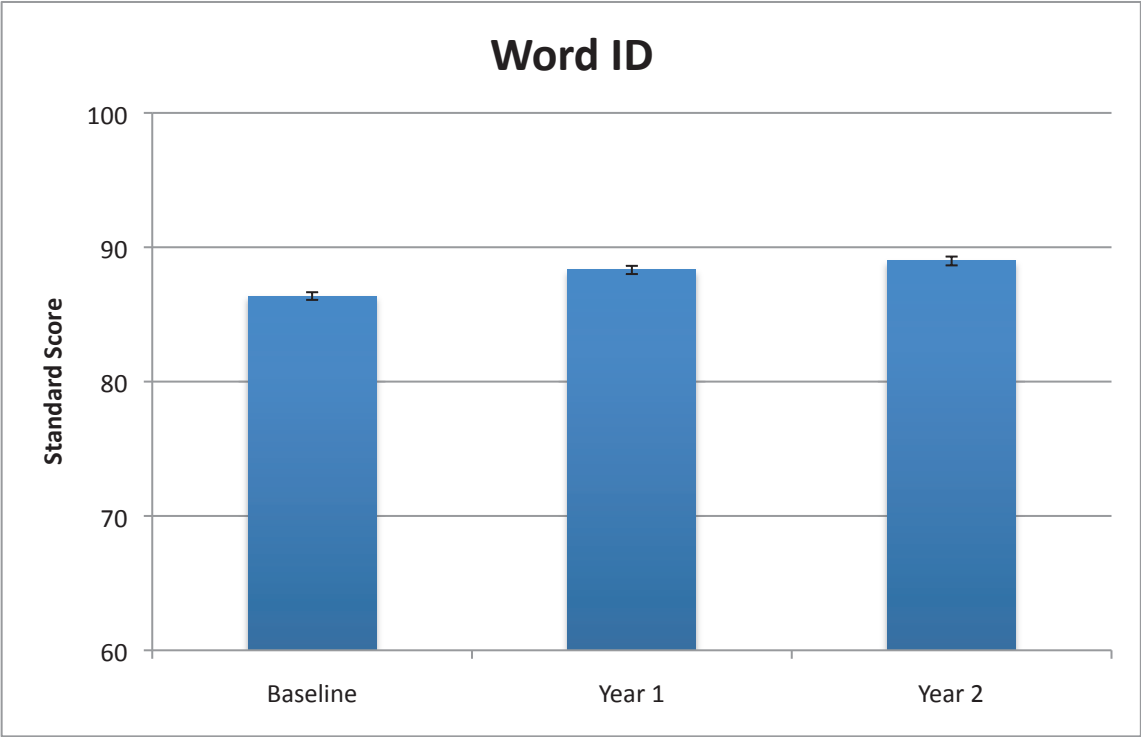


Figure 4. Average student scores for word identification over the course of treatment.

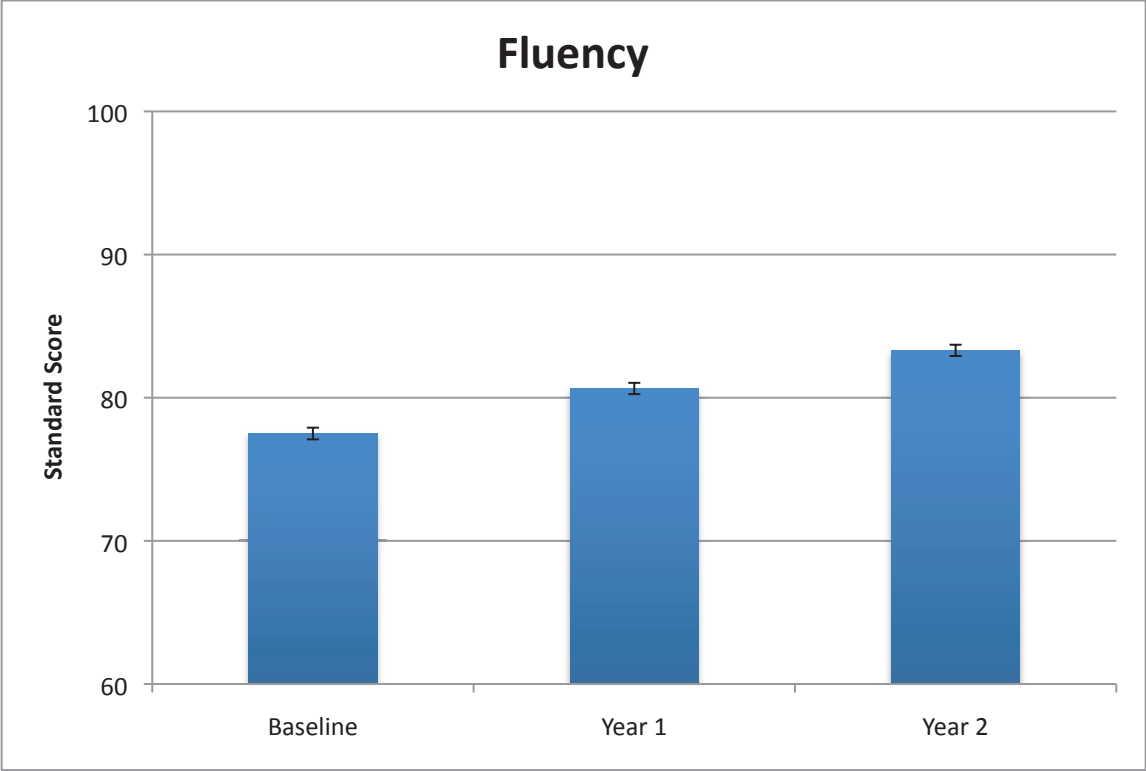


Figure 5. Average student scores for reading fluency over the course of treatment.

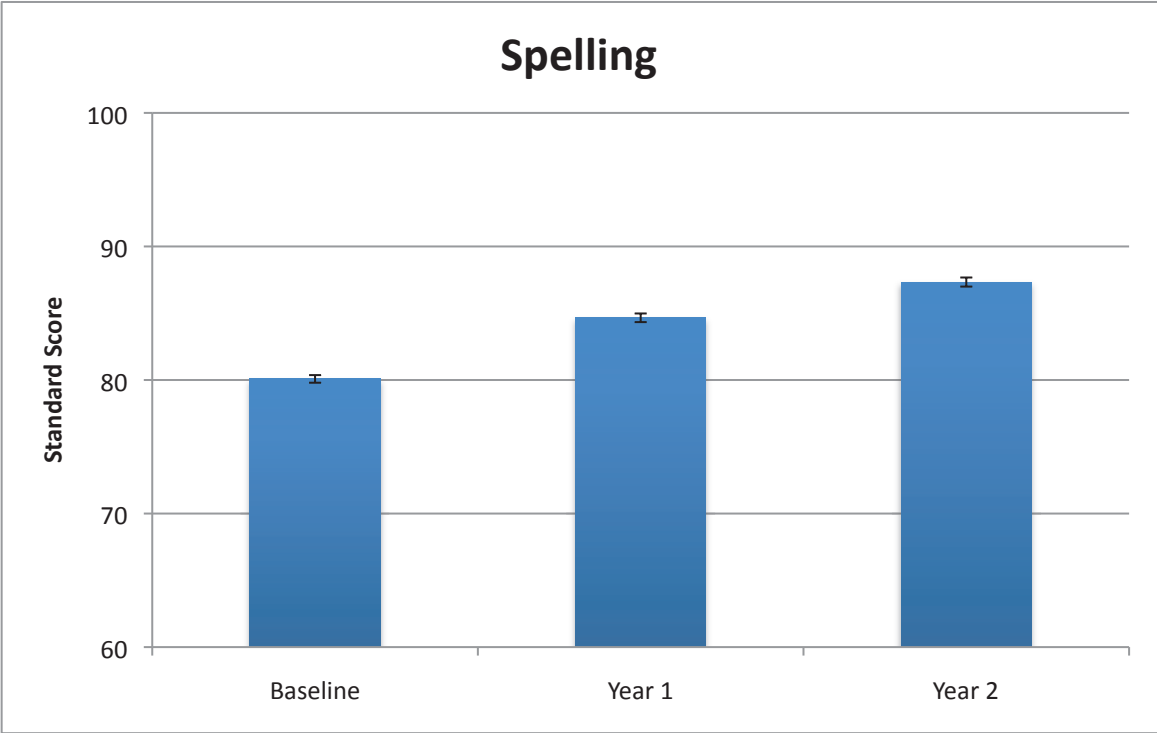


Figure 6. Average student scores for spelling over the course of treatment.