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Determining Educational Achievement

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Determining Educational Achievement

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Abstract

This is a single subject case study using the method of purposive sampling of a student with Cerebral Palsy, Attention Deficit Hyperactivity Disorder and Speech Impairment. The subject was given the Woodcock Reading Mastery, KeyMath, and Kaufman Test of Education Achievement assessments due to noticeable poor academic performance. Students with Cerebral Palsy often have cognitive deficits. The reason for this investigation was to determine subject's strengths and weaknesses. By determining his strengths and weaknesses it would be easier to focus instruction and provide support on areas where my subject has the most difficulty. Also, administering multiple achievement tests would determine if my subject's low performance was due to difficulties in one subject area (such as reading) that was effecting his performance across the curriculum. The purpose for this study was to obtain data that could be reviewed to provide the instructional support and planning needed to improve his educational achievement. We found that our hypothesis was true; The results showed that he performedsignificantly below average in overall achievement.

Hypothesis
The hypothesis for this study is that JD is having difficulty in overall achievement including math, reading and writing.

Demographic of Student

- Eighth grade student at Prince Edward Middle
- Diagnosed with Cerebral Palsy, ADHD, and a speech impediment
- Participates in all general education classes with inclusion supports
  - Receives read-aloud supports on all tests
  - Given a calculator in math
- **Behavior of Student**
  - Social student with many friends
  - Low amount of class participation
  - Focused and Diligent
  - Compliant
- **During the assessment**
  - Good attitude/willing to participate
  - Inquisitive on why he was being tested

Background

Cerebral Palsy

Cerebral Palsy is a disorder of movement, muscle tone, or posture. It is caused by damage that occurs to the developing brain, often before birth. Such damage can be caused by infections during birth such as rubella or cytomegalovirus, jaundice in the infant a few days after birth, or trauma during labor. The effect on the person's functionality abilities varies greatly. Some show normal or near-normal intellectual capacity, however others might have intellectual disabilities as well as vision, speech, hearing, and language **problems**.

Attention Deficit Hyperactivity Disorder

Attention Deficit Hyperactivity Disorder is the most common mental disorder among children. Those diagnosed have an ongoing pattern of hyperactivity, inattention, and impulsive The most common symptom being hyperactivity. Scientists are not sure what cause ADHD but my there are factors that have been considered to higher the risk of having a child with ADHD. These factors include genetics, cigarette smoking, the use of alcohol or drugs, exposure to environmental toxins at a young age or during pregnancy, low birth weight, and brain injuries. There are treatments for ADHD including medication, psychotherapy, and others.
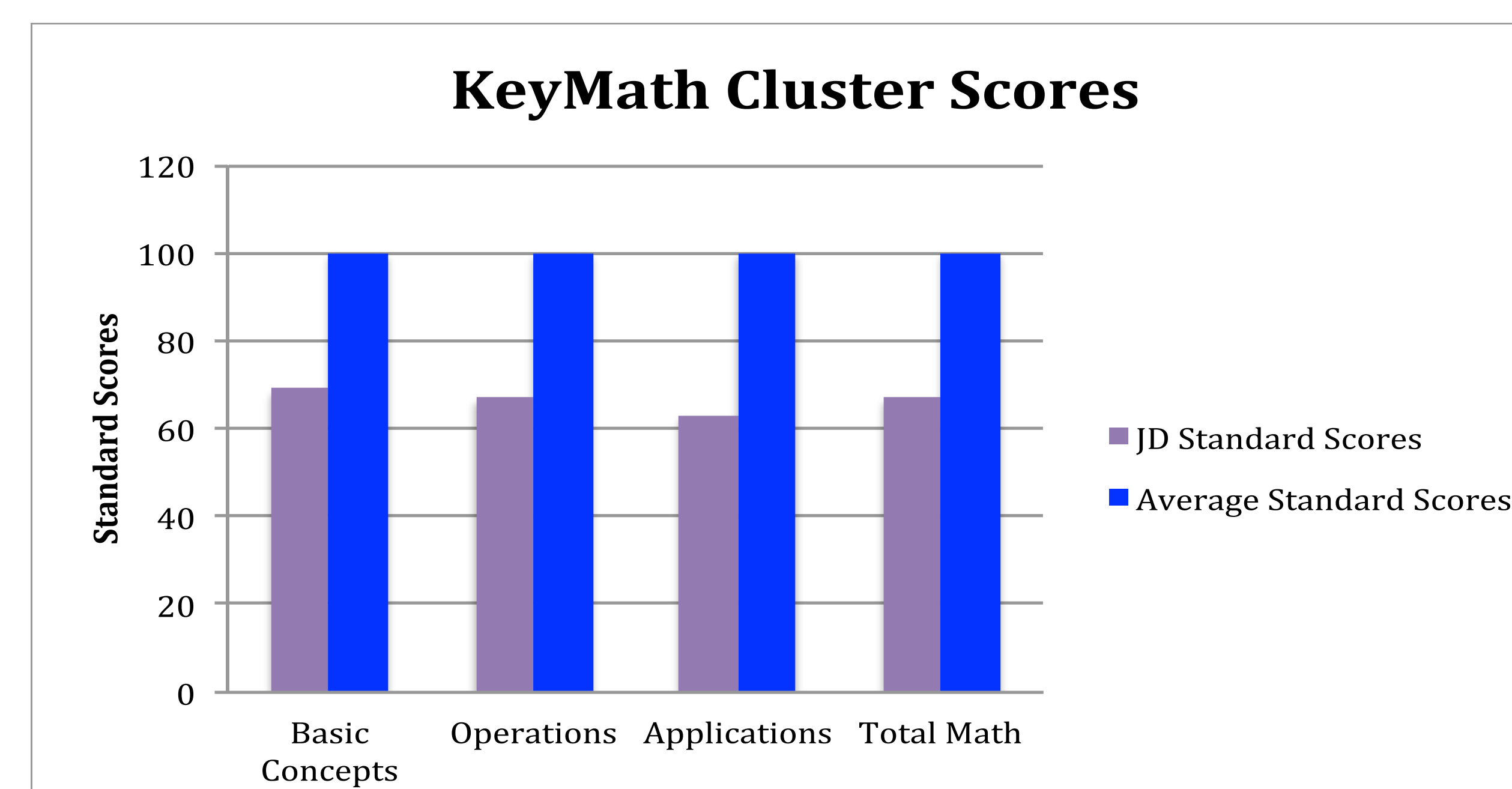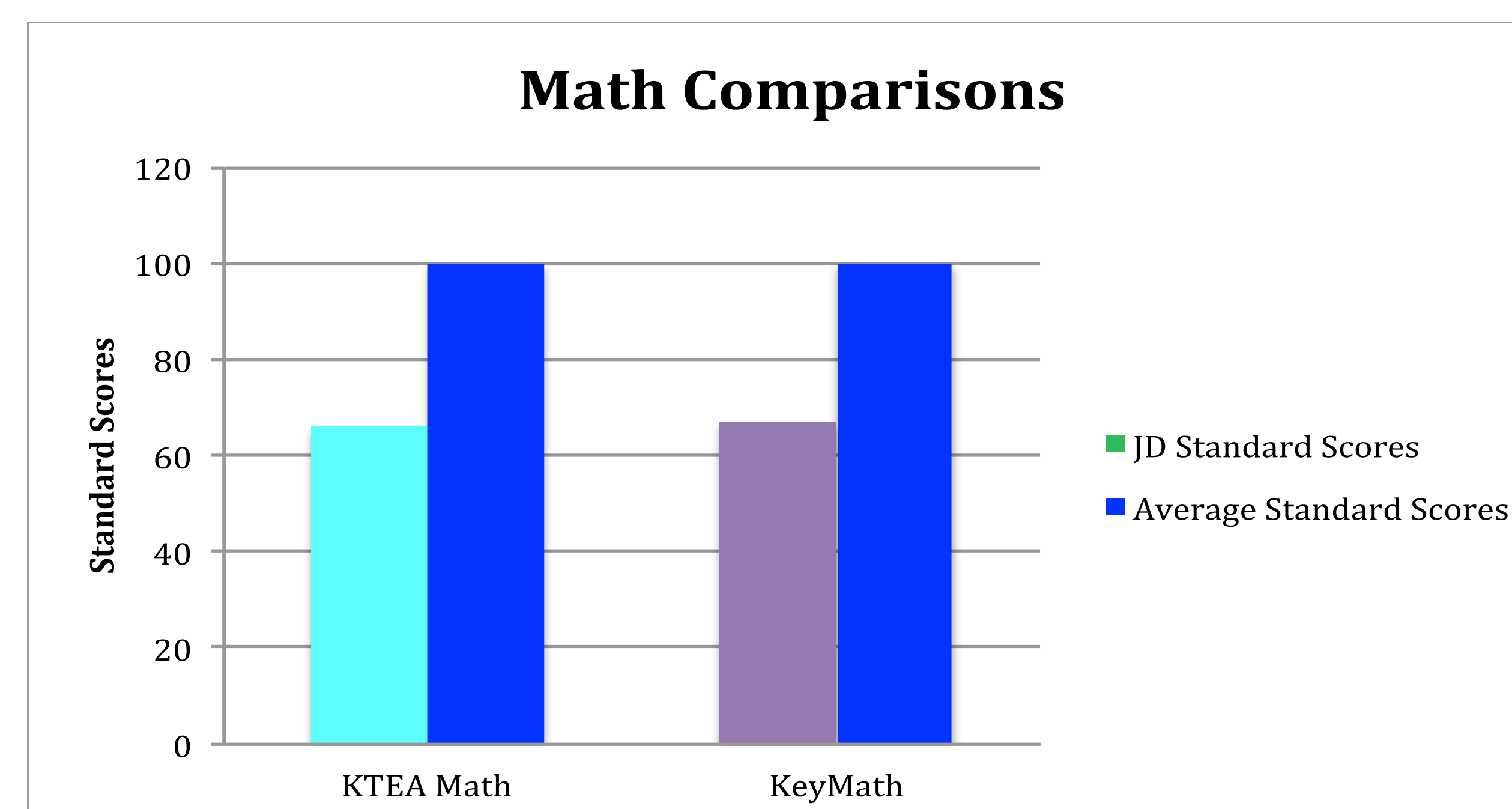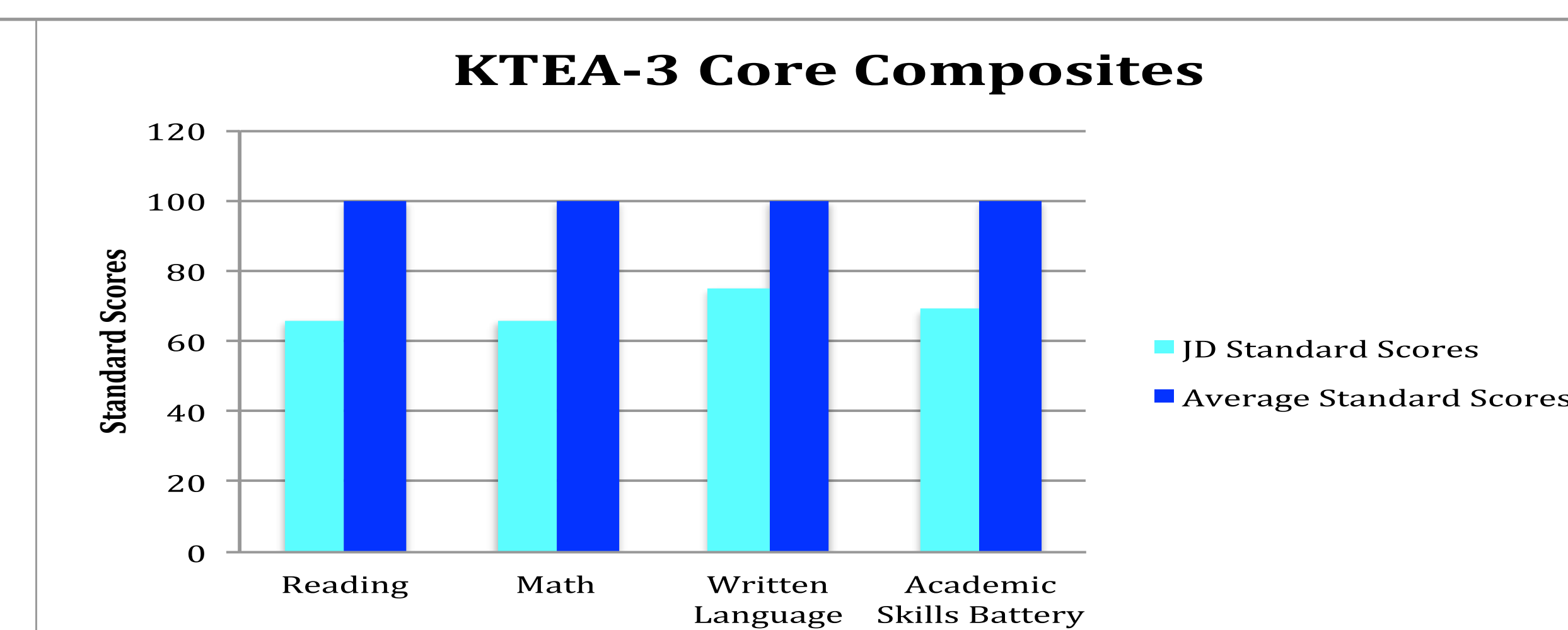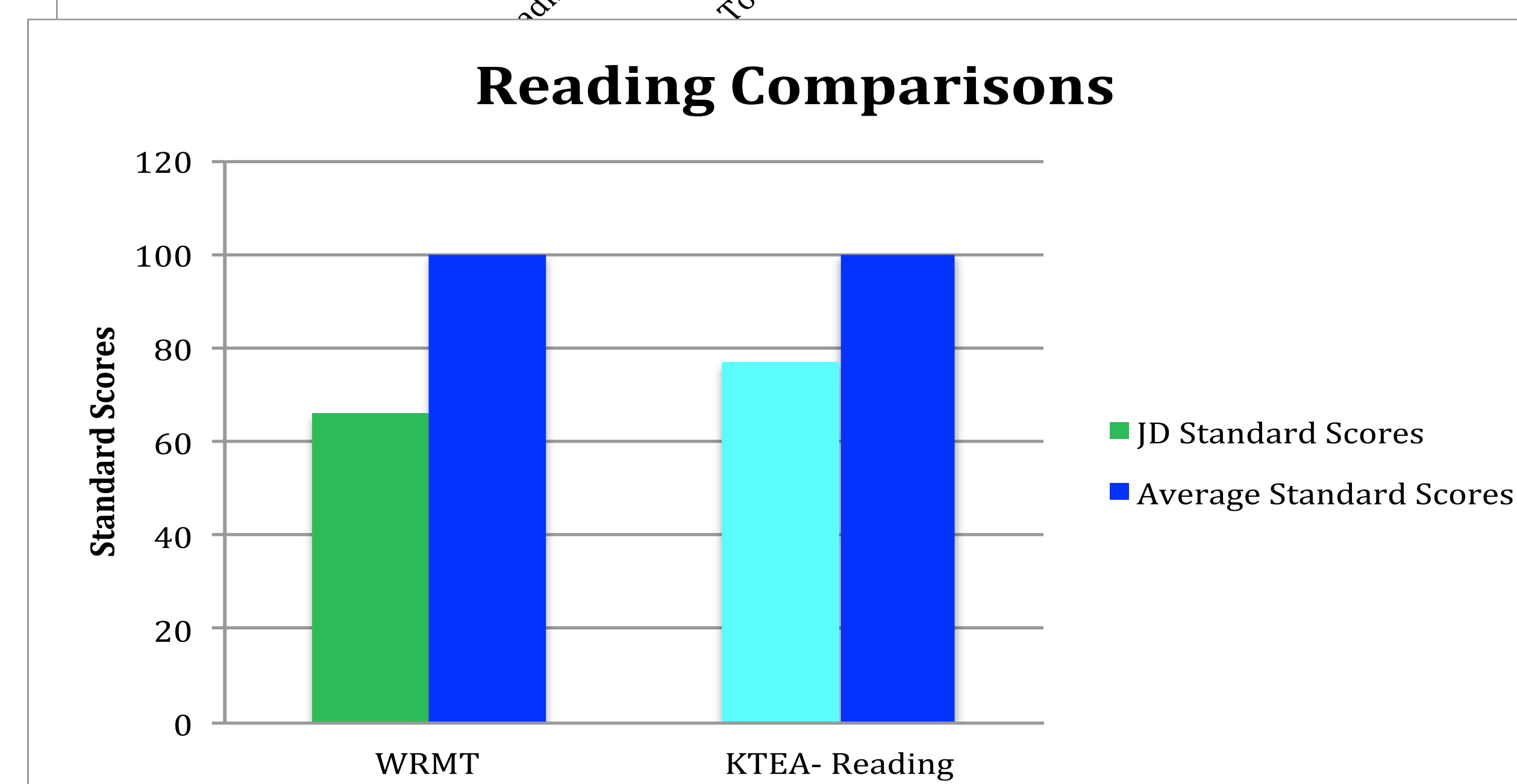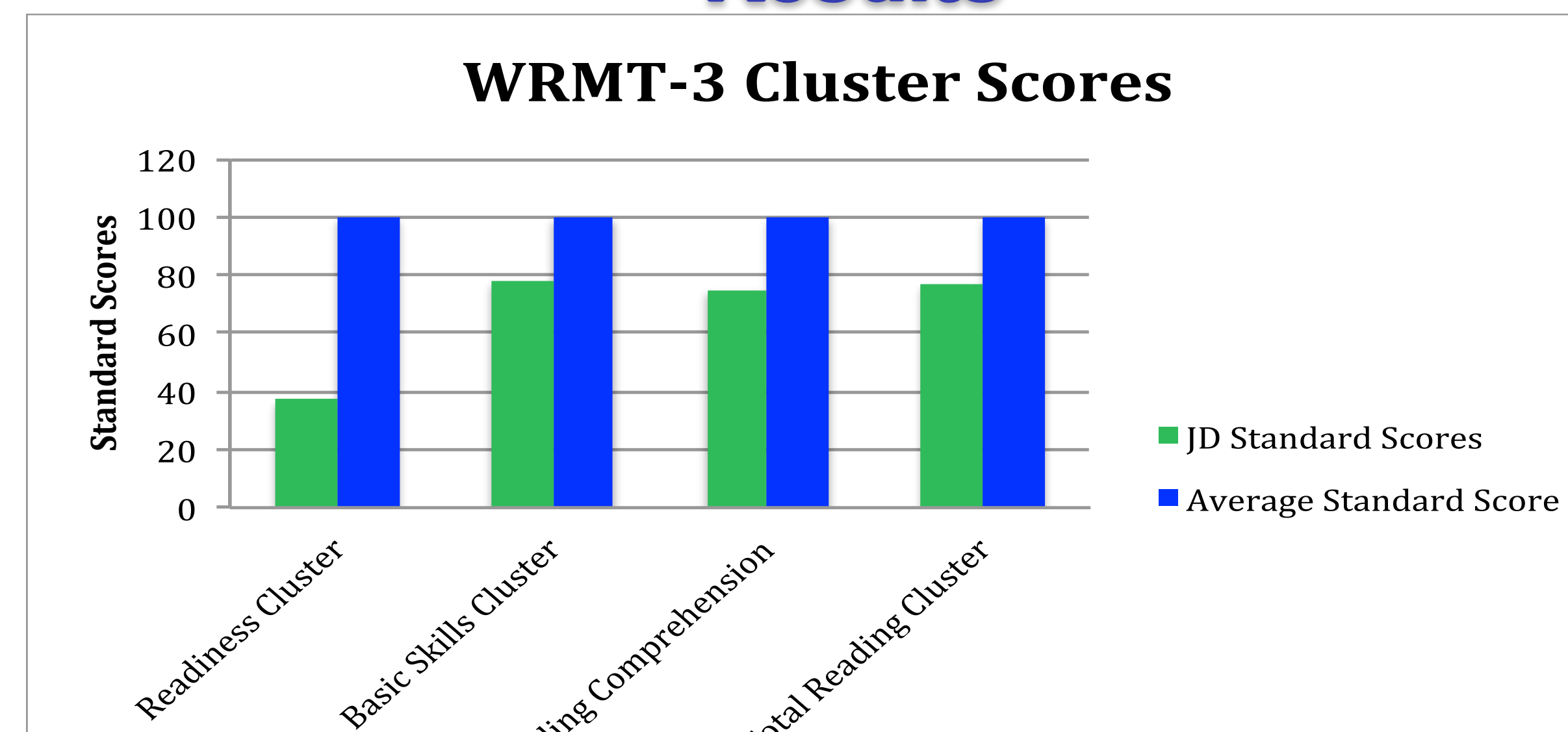
Speech Disorder

A speech disorder effects the way a person creates sounds and forms words effecting the vocal chords, throat, muscles, and nerves. Some people with speech disorders are aware of what they want to say, others are unable to articulate their thoughts. This can often lead to self-esteem issues or depression. Early treatment can correct these issues. A speech disorder can be caused in many different ways such as brain, damage, vocal chord damage, mule weakness, stroke, and others. Speech disorders can be hereditary or developed over time.

References

Kahn, A. (2015). Speech Disorders. Retrieved from http://www.healthline.com/health/speech-disorders#outlook7

Results

WRMT-3 Cluster Scores

Reading Comparisons

KTEA-3 Core Composites

Math Comparisons

KeyMath Cluster Scores

Assessment Questions and Procedures (IAP)

Assessment Questions	Assessment Procedures	Person(s) Responsible
• What is JD's grade equivalent for reading, and what is his overall reading achievement?	• Woodcock Reading Mastery Achievement Test	• Special Educator
• What is JD's grade equivalent for math, and what is his overall math achievement?	• KeyMath Achievement Test	• Special Educator
• What is JD's achievement across curriculum?	• Kaufman Test of Educational Achievement	• Special Educator

Description of Instruments

Woodcock Reading Mastery
- Richard Woodcock [2011]
- Designed to assess the reading levels of people of all ages
- Consists of two different form G and H
- Includes six subtests: visual-auditory learning, letter identification, word identification, word attack, word comprehension, and passage comprehension
- Subtests fall into three clusters: readiness cluster, basic skills cluster, and the reading comprehension cluster.
- All clusters are added together to get the total reading cluster

KeyMath
- Austin Connolly [2007]
- Used to diagnosis students with learning disabilities in mathematics
- Available in two parallel form A and B
- Includes ten subtests: Numeration, Algebra, Geometry, Measurement, Data Analysis and Probability, Mental Computation and Estimation, Addition and Subtraction, Multiplication and Division, Foundations and Problem Solving, and Applied Problem Solving
- Subtests are grouped into three general math content areas: basic concepts, applications, and operations

Kaufman Test of Educational Achievement
- Nadeen and Alan Kaufman [2014]
- Assess student achievement in education to find gaps in their performance, also used to find specific learning disabilities
- Includes 19 different subtest that assess a variety of subjects including math, read, oral language, and written language
- Broken down into core composites, overall composites, reading related composites, oral composites, and cross-domain composites

Results & Discussion

After assessing the subject with Woodcock Reading Mastery, KeyMath, and KTEA, and reviewing the areas where he had the most difficulty there were a few pattern that were noticed. While the subject was behind grade-level in all tested subjects he showed significant difficulties in comprehension. On the Woodcock Reading Mastery some of the subjects's lowest scores were in visual auditory and passage comprehension. Similarly for the KTEA, some of his lowest scores were in narrative reading comprehension and listening comprehension. The subject's overall has a difficult time with math. Between the KTEA and KeyMath, his most common errors occurred in the incorrect use of operations, word problems, and problems using time or money. Cerebral palsy is associated with students having lower cognitive abilities; This was proven to be true with our subject.

Recommendations
- Tier 3 instructions for reading and math
- Direct instruction in comprehension
- More one-on-one or small group instruction
- IEP team meet again to discuss re-evaluating JD (intellectual disabilities)
- Receive accommodations such as read-aloud and a calculator