

Submitted By: Donna E. Rutherford, Director/Reading Specialist
Brain Zone Reading & Tutoring Center, Inc.

Name: Daniel
Gender: Male
Chronological Age: estimated age 14.6-years
Clinical Diagnosis: Post Traumatic Stress Syndrome and Attachment Disorder

Client History

Recently adopted from Ethiopia by a local family, his exact age is not known. He had been living in a shanty with several other boys for some time. There was no electricity, no running water or bathroom facilities, no adult supervision, and no steady food supply. In order for him to be adopted, he was instructed to say he was twelve years old – he and his new parents believe he was probably at least 14-years. Although his vocabulary was very limited, he caught on to English rather quickly. He spoke with an English accent, in a soft, quiet voice, with his head bowed down, and only fleeting eye contact. He loved to learn! He was motivated and a hard worker but his memory simple failed him more times than not. He was so very shy that he could not function in a group setting regardless of how small it was. And that is how Daniel ended up at our learning center in April of 2008. For two years we provided his academic requirements for all the language arts. We came to love and respect him but progress seemed like two steps forward and four steps back.

Our goals for Daniel were as follows:

- Increase memory capacity
- Enhance auditory processing skills
- Increase reading fluency
- Expand ability to think
- Improve eye contact
- Boost self-confidence
- Improve reading comprehension

Concurrent Treatment/Intervention

A 20-week intensive remediation program was designed to meet Daniel's goals. It consisted of the following elements:

- The Listening Program® Level One Kit with Nature Sounds and ABT Bone Conduction Audio System
- Learning Ears® by Moyer's Learning Systems
- Sonday System Reading Remediation Program
- BrainBuilder®

Listening Plan

For Cycle One listening used the standard *Learning Ears* listening program protocol with two, 15-minute listening sessions, five-sequential days per week, with a TLP Level One Kit with Nature Sounds and Bone Conduction.

- Phase I (4-weeks) – both 15-minute listening sessions were in the home environment.
- Phase II/III (12-weeks) – the morning listening sessions was done in the learning center as an active-listening session. A simple mixer and microphone set-up was used (standard Learning Ears configuration), however, this session did not use bone conduction. Evening session was completed in the home environment.
- Phase IV (6-weeks) – both listening sessions returned to the home environment.

Rationale for Listening Plan

- Relevant intake findings
- Correlations to the frequency zones
- How the listening plan was intended to achieve listening goals

Observations

Daniel literally transformed right before our eyes. It seemed that every week brought a little more of child that had been hiding. This quiet young man went from holding his head down to sitting and walking with his head held high. Although vocabulary remained an issue, he became very articulate, describing everything from stories he read to things he saw, in great detail. This amazing sense of humor began to emerge and his delivery of jokes was spot on!

Pre/Post Testing

GIBSON TEST BATTERY OF COGNITIVE SKILLS

| Test Name | Pre-Test | Post-Test | Change in years |
|---------------------|----------|-----------|-----------------|
| Processing Speed | 9.2 | 12.7 | +3.5 |
| Working Memory | 12.6 | 15.10 | +3.4 |
| Visual Processing | 6.5 | 12.10 | +6.5 |
| Logic-Reasoning | 12.3 | 12.3 | +0.0 |
| Selective Attention | 6.2 | 6.10 | +0.8 |
| Spelling | 12.9 | 13.9 | +1.0 |

WOODCOCK READING MASTERY

| Test Name | PRE- | | POST- | | Change in Years |
|--------------------------|-------------------|-----|--------------------|-----|-----------------|
| | Pre-Test in Years | SS | Post-Test in Years | SS | |
| Visual-Auditory Learning | 6.0 | 68 | 7.9 | 87 | +1.9 |
| Word Identification | 10.11 | 88 | 11.11 | 91 | +1.0 |
| Word Attack | 13.11 | 100 | 18.6 | 111 | +4.7 |
| Passage Comprehension | 10.7 | 87 | 12.0 | 93 | +1.6 |

TEST OF AUDITORY PROCESSING SKILLS, VERSION 3

| Subtests | PRE- | | POST- | | Change in years |
|-----------------------------|---------------|------------|---------------|------------|-----------------|
| | Scaled Scores | Age Equiv. | Scaled Scores | Age Equiv. | |
| <i>Phonologic Processes</i> | | | | | |
| Word discrimination | 9 | 7.6 | 12 | >9.6* | +2.0 |
| Phonological segmentation | 14 | >18.11* | 14 | >18.11* | +0.0 |
| Phonological blending | 7 | 7.11 | 15 | >18.11* | +11.0 |
| <i>Memory Processes</i> | | | | | |
| Number memory forward | 9 | 11.6 | 11 | >18.11* | +7.5 |
| Number memory reversed | 7 | 9.2 | 11 | 16.10 | +7.8 |
| Word memory | 7 | 7.7 | 12 | >18.11* | +11.4 |
| Sentence memory | 9 | 12.7 | 11 | >18.11* | +6.4 |
| <i>Complex Processes</i> | | | | | |
| Auditory comprehension | 7 | 8.4 | 9 | 12.7 | +4.3 |
| Auditory reasoning | 8 | 11.6 | 14 | >18.11* | +7.5 |

COMPOSITE SCORES FROM TAPS-3

| Tests | PRE- | POST- |
|------------|-----------------|-----------------|
| | Standard Scores | Standard Scores |
| Phonologic | 100 | 119 |
| Memory | 90 | 106 |
| Cohesion | 88 | 108 |
| Overall | 93 | 107 |

TEST OF VISUAL PERCEPTUAL SKILLS

| Basic Processes | PRE- | | POST- | | Change in years |
|-----------------------|--------------|------------|--------------|------------|-----------------|
| | Scaled Score | Age Equiv. | Scaled Score | Age Equiv. | |
| Visual Discrimination | 8 | 10.4 | 14 | > 18.11* | > +8.7 |
| Visual Memory | 13 | > 18.11* | 13 | > 18.11* | +0.0 |
| Spatial Relations | 8 | 10.7 | 12 | 16.0 | +5.5 |
| Form Constancy | 4 | 6.5 | 11 | 16.7 | +10.2 |
| Sequential Memory | 9 | 12.0 | 11 | 15.7 | +3.7 |
| Figure Ground | 10 | 13.1 | 11 | 16.0 | 2.11 |
| Visual Closure | 11 | 14.0 | 12 | 17.6 | 3.6 |

COMPOSITE SCORES FROM TVPS-3

| Tests | PRE- | POST- |
|-------------------|-----------------|-----------------|
| | Standard Scores | Standard Scores |
| Basic Processes | 91 | 113 |
| Sequencing | 95 | 105 |
| Complex Processes | 103 | 108 |
| Overall | 95 | 110 |

GRAY ORAL READING TESTS

| Test | PRE- | | POST- | | Change in years |
|---------------|----------------|----------------|----------------|----------------|-----------------|
| | Standard Score | Age Equivalent | Standard Score | Age Equivalent | |
| Rate | 6 | 11.6-yrs. | 7 | 12.0-yrs. | +0.6 |
| Accuracy | 5 | 10.0-yrs. | 9 | 12.9-yrs. | +2.9 |
| Fluency | 3 | 10.9-yrs. | 7 | 12.6-yrs. | |
| Comprehension | 5 | 10.3-yrs. | 9 | 13.9-yrs. | |

Pre-remediation measured Daniel's Oral Reading Quotient at 64, in the 1 percentile ranking. Post-remediation measured an ORQ of 88, in the 21st percentile ranking.

BASIC ACHIEVEMENT SKILLS INVENTORY

| Subtest | Pre | | Post | |
|-------------------------------|-----------------|------|-----------------|------|
| | Standard Scores | %ile | Standard Scores | %ile |
| <i>Reading Total</i> | 88 | 21 | 108 | 70 |
| Vocabulary | 88 | 21 | 108 | 70 |
| Reading comprehension | 88 | 21 | 110 | 75 |
| <i>Written Language Total</i> | 82 | 12 | 109 | 73 |
| Spelling | 76 | 5 | 107 | 68 |
| Language mechanics | 98 | 45 | 108 | 70 |

Testing Summary

Daniel was administered a battery of cognitive and academic assessments consisting of phonological, auditory, visual, and language arts tests. These assessments revealed that he would require remediation in nearly all areas; however, his auditory processing and memory skills were deemed the priority. Daniel achieved his greatest gains in the targeted areas. All nine areas of auditory processing were at or above his age at the completion of his remediation plan, reaching an approximate age equivalence of 16-years old. Daniel's auditory memory soared from approximately equivalent to 10-years old to an 18-year old. Visual sequential memory showed excellent gains as well; going from an age equivalence of 12-years old to 15.7-years old.

Questions/Follow-up Recommendations

Daniel made some amazing progress over the course of his remediation. However, there was still work left to do. It was recommended that he continuing instruction in critical thinking and reading. As well, he was asked to continue to use BrainBuilder and to use his TLP with Bone Conduction, following a once a day listening protocol.

Discussion

Daniel finally left our learning center in June 2011, bringing an end to a three year journey. It is amazing to me that we did everything we knew to help Daniel for two years and he made minimal progress. But seven months of The Listening Program with Learning Ears and Daniel's life was truly transformed. He no longer requires a private, one-on-one setting and the personal attention of our learning center. He is now attending a group home school program using a classical education curriculum -- no longer modified and adjusted to meet his needs. He participates in small groups for discussions and group study teams. His mother and father truly thought he would never be able to cope with a group setting. He continues to challenge himself and rise to meet the demands of a rich and full education in a new land.