Benefits of MNRI® for a Child with Dyslexia

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Introduction

Life is so interesting when you work with children. With 43 years in education and psychology I have seen many children and adults with different developmental challenges: physical, emotional, and academic. Over the last fifteen years I have seen a significant increase in children diagnosed with both autism and dyslexia. Autism has been given a lot of press and has generated many research articles on methods to alleviate symptoms and specific strategies for use at home and in school. Less attention has been given to the learning disorder known as dyslexia.

This case study is about a young boy who displayed all the classic signs of dyslexia two years ago. A total non-reader, at age 7½ he was unable to tell the difference between a letter and a number. Today, following 24 months of weekly sessions of MNRI® (Masgutova Neurosensorimotor Reflex Integration) complemented by five days per week of home exercises, he enjoys reading and is able to function at beginning second grade level.

What is Dyslexia?

Unfortunately educators and parents are all too familiar with this term. Defined by the Mayo Clinic, dyslexia is: a learning disorder characterized by difficulty reading. Also called specific reading disability, dyslexia is a common learning disability in children. Dyslexia occurs in children with normal vision and intelligence. Sometimes, dyslexia goes undiagnosed for years and isn’t recognized until adulthood.

There’s no cure for dyslexia. It’s a lifelong condition caused by inherited traits that affect how your brain works. However, most children with dyslexia can succeed in school with tutoring or a specialized education program. Emotional support also plays an important role.

Although often undiagnosed before a child begins school, earlier symptoms can include late talking, slow progress in language acquisition, and difficulty rhyming. At school the following symptoms would suggest a diagnosis of dyslexia:

- reading at a level well below the expected level for the age
- problems processing and understanding what they hear
- difficulty comprehending rapid instructions
- trouble following more than one command at a time and multitasking

1http://www.mayoclinic.com/health/dyslexia/DS00224/DSECTION=symptoms
Reflexes of the Brain

- problems remembering the sequence of things
- difficulty seeing (and occasionally hearing) similarities and differences in letters and words
- an inability to sound out the pronunciation of an unfamiliar word
- seeing letters or words in reverse (‘b’ for ‘d’ or ‘saw’ for ‘was,’ for example) – this is common in young children, but may be more pronounced in children with dyslexia
- difficulty spelling
- trouble learning a foreign language.

The National Center for Learning Disabilities describes dyslexia as a lifelong challenge:

This language-based processing disorder can hinder reading, writing, spelling, and sometimes even speaking. Dyslexia is not a sign of poor intelligence or laziness or the result of impaired hearing or vision. Children and adults with dyslexia have a neurological disorder that causes their brains to process and interpret information differently.

History and Background

Mike (not his real name) presents as a beautiful child with no outward signs of a disability. Under no pressure to sit still or to perform academically, he responds as any typical child his age would. Mike is outgoing, loves to run and have fun, and is very creative in play and crafts. Yet when he was required to sit still, follow directions or apply academic concepts, he presented as a student much younger than his age or grade placement. Mike was having a very difficult time in the academic setting. He displayed extreme delays in reading, spelling, math, and phonics, along with frequent letter reversals and number confusion. When our work began he had significant difficulty understanding and following a sequence of directions. It was very hard for his parents to understand why Mike did not respond to requests either at home or at school.

Due to a December birthday he was in first grade at age 7½, when this report begins. He presented most of the above mentioned characteristics of dyslexia. Already in Kindergarten, the local public school had identified him as a child to be watched to see if he would possibly need more individual attention. In December 2009 he was started on the path to evaluation for a possible learning disability and a Response to Intervention (RTI) plan was implemented in his regular classroom. The RTI plan included a revision to a more basic Kindergarten curriculum and tutoring sessions three times a week in a very small group.

Mike’s Kindergarten teacher described him as a happy, friendly boy who had a ‘tough’ exterior and was very concerned about other’s perception. Mike had difficulty with blending and segmenting words, recognizing high frequency words, following directions, and completing tasks independently. He often guessed without any thought to his answer, hurried through tasks and needed help to complete assignments.

This RTI plan was carried over to the first grade. No progress was noted with the implementation of the RTI programs even though teachers seemed very committed to helping Mike and his family worked with him nightly to help him learn the very basic reading and academic skills. By January 2011, Mike could still not tell you if the flash card had a number or letter on it and he was unable to count to 15 without leaving out at least two numbers or forgetting what number came next. Mike tried very hard to please his parents and teachers, but when it came to written or oral language skills he did not seem to have a clue how to process this information successfully or respond either verbally or in writing. Mike also had experienced several significant emotional stressors in his early life. At two his father died in his sleep during the night.

In August 2010, at the beginning of Mike’s first grade year, his mother remarried and the family moved into a new home, a short distance away from grandparents who had been involved in his daily life since he was a toddler. There were some limited signs of possible PTSD symptoms due to his father’s death and moving from the constant care of his grandparents.

Mike’s parents were very concerned and frustrated by his lack of academic progress. They were looking for answers as to why this beautiful, winsome, charming child could not learn. In January 2011 they consulted me, as a psychologist and MNRI® Core Specialist, and we began to develop a plan to help Mike integrate the learning that he had already been exposed to so that he could meet classroom academic expectations in an adequate and appropriate manner. Besides not responding to the modified classroom curriculum and delivery system, Mike was beginning to dislike school. He had one reported behavioral incident during first grade.

2 http://www.mayoclinic.com/health/dyslexia/DS00224/DSECTION=symptoms
3 http://www.ncld.org/
where he became aggressive toward his RTI teacher. All the evidence gathered from both the school and the family indicated that Mike was exhibiting the characteristics of dyslexia.

**Assessments in 2011**

In early 2011 Mike had several assessments completed to help assist his family, the school, and me in fine-tuning his academic program.

*January 2011: The Developmental Test of Visual Motor Integration-Fifth Edition (VMI)*

This test was administered to Mike during a Neuro-Visual evaluation. This activity required him to look at and copy geometric designs of increasing difficulty. He achieved a standard score of only 76, demonstrating a level of visual integration significantly below average, as compared to same-age peers, and below the range expected given his measured intelligence. Mike’s performance indicated the following deficiencies:

- Oculomotor Dysfunction (eye tracking)
- Binocular Dysfunction

*March 2011: MNRI® Reflex Parameters Assessment*

This was the first of three MNRI® assessments done by Dr. Svetlana Masgutova in 2011, 2012, and 2013. Mike demonstrated unintegrated reflexes for Robinson Grasp, Hands Pulling, Hands Supporting Babkin Palmomental, Foot Tendon Guard, Leg Cross Flexion, ATNR, Fear Paralysis, Trunk Extension, STNR, Spinal Galant and Spinal Perez, among others. His performance indicated a range of integration in his reflex system from mild dysfunction to functional at a very low level of development. The lowest scores were in the spinal reflexes, which are particularly important for postural control, attention, and focus. A more detailed discussion of scores and changes in Mike’s level of reflex integration follows in the section on MNRI® Assessment Results.

*June 2011: In June 2011 Mike had a Psycho-Educational Evaluation by a licensed and NCSP psychologist in private practice. A significant strength noted by the examiner was Mike’s ability to identify essential details in a picture. Throughout all visual tasks he performed better when presented with picture stimuli than with geometric information. Mike’s knowledge/ vocabulary skills, his verbal reasoning ability, and his verbal and nonverbal short-term memory were all within normal limits for his age. The psychologist administered the following tests.***

*Reynolds Intellectual Assessment Scales*

Standard index scores were as follows (mean =100, standard deviation = 15, Asterisks indicate more than one standard deviation from the mean):

- Verbal Intelligence Index 101
- Composite Intelligence Index 109
- Nonverbal Intelligence Index 118*
- Composite Memory Index 102

*Woodcock-Johnson Tests of Cognitive Abilities-III-NU (WJ-III)*

Standard cluster scores calculated from Mike’s performance in four areas of information processing ability were as follows (mean = 100; standard deviation = 15, Asterisks indicate more than one standard deviation from the mean):

- Long-Term Retrieval 69*
- Processing Speed 84*
- Visual-Spatial Thinking 98
- Phonemic Awareness 120*

*The Woodcock-Johnson- Tests of Achievement-III-NU (WJ-III)*

Using the standard subtest scores, standard scores in seven academic cluster areas as well as four broad academic areas were calculated as follows (mean = 100; standard deviations = 15, Asterisks indicate more than one standard deviation from the mean):

- Basic Reading Skills 86*
- Written Expression 84*
- Reading Comprehension 72*
- Phoneme/Grapheme Knowledge 82*
- Oral Expression 99
- Broad Reading 71*
- Listening Comprehension 100
- Broad Mathematics 87*
- Math Calculation 91
- Broad Written Language 77*
- Math Reasoning 86*
- Oral Language 100

The results from this evaluation met the diagnostic criteria for Reading Disorder and Disorder of Written Language. Mike’s assessment scores were reviewed at his local public school and he was found to be eligible for Special Education Services under the category of Specific Learning Disabilities.

In August of 2011 Mike was enrolled in a private school where he attended their Enhanced Learning Pro-
gram. He was also retained in the First Grade. Mike was in a classroom with no more than 6-10 children and he received one-on-one instruction for some of his academic needs. He also had time in the regular education classroom during science, Spanish, and P. E.

**MNRI® Assessment and Therapy**

The Masgutova Method® was chosen as the therapy of choice because Mike had not responded to any of the usual and modified academic interventions given him. Also the possibility of PTSD following his father’s death and other life/environmental events led this psychologist and MNRI® Core Specialist to feel that Mike’s academic improvements must come from the maturation and improved integration of his overall brain-body system. Beginning in January 2011 Mike would have weekly 1 to 1½ hour sessions with the author as a MNRI® Core Specialist. A Home Program enabled his mother to follow through with a prescribed sequence of reflex repatterning exercises 5 days a week. Both the therapy and home interventions used neurosensorimotor reflex integration techniques offered through various MNRI® programs to remediate the debilitating effects of dysfunctional and immature reflex motor pattern development.

Dr. Masgutova completed yearly MNRI® Reflex Parameters Assessments during the three years that Mike received MNRI® therapy sessions. These Assessments were given on March 2011, March 2012, and April 2013. The following Tables 1, 2, 3 and Graphs 1, 2, 3 show the consistent progress he has made each year.

The scores for each parameter are combined to yield a score from 0 to 20, indicating the level of reflex development. Table 1 presents the criteria for scoring. (More information on this is available in the Assessments article in this book.)

The Tables and Charts at left present the results of Mike’s Reflex Assessment in groups of reflex patterns relating to movements and motor skills within three different body planes: A) Sagittal (Left-Right), B) Horizontal (Upper-Lower), and C) Dorsal (Front-back)

Mike’s initial MNRI® Reflex Parameters Assessment showed that most of his reflexes in the Left-Right Motor Coordination System (MCS) were functional at a very low level of development. This MCS affects rational and cause/effect thinking, ability to sequence, and to use intuition as the results of past experience. Overall, the MCS affects learning and the development of cognition and action. Abdominal (the protective response of this reflex is help the body to go into the state of sleep) and Foot Grasp (the protective response of this reflex is to escape unsafe ground and maintain balance and stability) fell in the mild dysfunctional range: incorrect patterns with some correct features. Two years later, the last MNRI® Reflex Parameters Assessment indicated all patterns as functional, though still at a low level of development.

Mike’s initial MNRI® Reflex Assessment for the Upper-Lower Motor System, which have to do with memory and emotional responses, indicated
that the basic reflex patterns were functioning at a very low level of development, with incorrect pattern for Segmental Rolling falling in the mild dysfunctional range (the protective response of this reflex is to coordinate posture and kinesthetic development with functioning of the auditory and visual systems).

According to his last MNRI® Reflex Parameters Assessment Segmental Rolling improved the most, moving from dysfunctional to an average level of development. Average functioning was noted as well for Automatic Gait, Bauer Crawling, Moro, and Hands Supporting. Landau, Flying and Landing, Grounding, and Head Righting had progressed to a functional level of development.

Mike’s scores for the Front-Back Motor System, which activates the protection and survival functions of the brainstem and involve reactivity, demonstrate that from 2011 to 2013 the basic reflex pattern for Pavlov Orientation has improved from functional to average. All other basic reflex patterns in this Motor Coordination System progressed to the functional level. It is particularly noteworthy that three spinal reflexes, STNR (the protective response of this reflex is to develop the inhibition mechanism for quieting the body and development of binocular vision and binaural hearing), Spinal Galant the protective response of this reflex is to influence auditory and visual convergence, divergence focusing and concentration) and Spinal Perez (the protective response of this reflex is to organize postural control and circulation of the cerebrospinal fluid) moved from dysfunctional to functional. Integration of spinal reflexes is crucial for the development of a level of postural control necessary for attention, focus, and efficiency in the visual and auditory systems.

**Discussion of MNRI® Results**

Mike received therapy from this therapist on at least a bi-weekly basis from February to May and September to November of each year. Already by March of 2011 Mike was able to count to 100 with just a few errors and by June he
could correctly count well past 100. In July while playing at the lake, Mike told his grandmother that his Dad had caught 8 minnows and he had caught 6 so all together they had 14 minnows! Sight word recognition was improving and Mike was able to complete his spelling words with 80% to 90% accuracy. By the end of 2011, Mike was able to count to 1,000, sound out CVC words and was developing a basic sight word list that he could easily recall, instead of guessing the word from the first letter of the word. Still reversals in some letters and numbers were present and his overall ability to read was very delayed. Eye tracking was still unstable in both the horizontal and vertical fields. Mike had great difficulty in completing the STNR integrating exercises with an easy flow, ATNR, and Hands Pulling. What had improved was Mike’s Foot Tendon Guard and overall control of emotional outbursts. In fact, Mike would tell others how much better Foot Tendon Guard made him feel and offer to show them how to do this reflex.

The MNRI® Reflex Assessment from 2011 showed the majority of Mike’s reflex patterns functioning in a range from dysfunctional to the boundary between dysfunctional and functional. In contrast, the last reflex Assessment in 2013 found most of his scores squarely in the functional, low level of development to normal range. The move from dysfunctional to functional is extremely significant because only once a reflex motor pattern has become functional can it serve as a foundation for the development of higher level skills. In October of 2012, Mike was finally able to complete the active participation stage of the Spinal Galant reflex. Within days after this session, both his parents and teachers expressed amazement at his improvement in both reading and handwriting.

At this writing (May 2013) Mike has been in the program for 24 months and is on a mid second grade level in math and beginning second grade level in reading, except for fluency. His steady improvement in reflex integration correlates with progress in academics as well as behavioral, social, emotional, and other school related areas documented in the charts and the parent report below.

Achenbach System of Empirically Based Assessment – September 2012 & April 2013

The Achenbach System of Empirically Based Assessment (ASEBA) offers a comprehensive approach to assessing adaptive and maladaptive functioning. It uses an integrated set of forms for assessing and generating standardized data on a broad spectrum of competencies, adaptive functioning and problems. Using T-Scores, the mean (average) is 50, and the standard deviation is 10. A T-Score above 50 is above average. Lower than 50 is below average. For example, if you have a T-Score of 60, you scored higher than 84% of all responses. In the DSM Oriented Scales below, a higher than average score denotes a more significant than average problem. A letter B by the score indicates that this score is falling in the Borderline Clinical Range (more significant than the scores obtained by 93% of the national sample) and a C indicates in the Clinical Range (more significant than the scores obtained by 98% of the national sample).

Child Behavior Checklist

As part of evaluation and measurement of Mike’s progress in MNRI® therapy both teachers and parents were asked to complete an ASEBA Child Behavior Checklist. The following scores were taken from these checklist reports, first in September 2012, and again in April 2013 (see Table 4):

The data from the ASEBA indicate that Mike has made significant progress in the DSM IV categories of Anxiety, Attention Deficit/Hyperactive Problems and Post-Traumatic Stress Problems. Mike’s regular education teacher reports a positive change in his nervous traits in the classroom, with still concern about his ability to concentrate. The Special Education teacher reports a decrease in Mike’s argumentative behaviors, better concentration in the smaller class, and fewer nervous traits noted. Parents note positive change in Mike’s abilities to be more independent, diminished fear of doing things wrong, fewer thoughts that others are out to get him, less nervousness, fewer nightmares, and diminished overall fearfulness.

The private school that Mike attends has administered the Woodcock Johnson at regular levels to measure progress in the basic academic areas. The results provided by the school have been given in grade scores. When the last evaluation was completed, Mike was academically completing his instruction at the 2.8 level.

The results of the Woodcock-Johnson Test of Achievement (see Table 5) indicate slow steady progress being made in the assessed academic areas. What these results do not show is Mike’s improvement in his eagerness and love of reading. He has become very independent in completing homework assignments and in reading on his own each night.

Parent’s report

“Since your starting the MNRI® work with my son Mike, he has grown in so many ways. He has gone from a boy who couldn’t read a word, to a young man who begs us to sit down and read books with him. He has also gone from a boy who could not perform even the most basic math problems, to a young man who loves math and is excelling. Mike is still immature and impulsive, but since starting the exercises, the changes in both are amazing. He is confident and looks forward to his sessions every week.”

Conclusion

As a licensed Mental Health Counselor and School Psychologist, I began using MNRI® in my practice over six years ago. My clients have demonstrated significant progress from the implementation of the MNRI® exercises. Positive changes have been noted in their physical posture, gait, fine and gross motor coordination, academic functioning in and out of the classroom, emotional self-regulation, social interactions, and overall social, emotional and mental well-being. All of these were areas in which Mike needed to improve.

MNRI® practitioners would not be surprised to note that standardized testing showed both social/emotional (ASEBA Child Behavior Checklist 4/13) and academic (Woodcock 4/13) progress concurrent with the maturation and integration of Mike’s reflex system. The underlying premise of MNRI® is that when the basic motor patterns of primary reflexes can serve reliably for protection and survival, then they can also serve as the foundation for further motor, emotional, and cognitive growth. This is exactly what Mike’s experience suggests. Once his level of reflex integration rose from dysfunctional to functional and in some cases from a low to average level of development, he began to acquire skills. Before MNRI® he had not responded to the high quality educational and professional help that had been available to him since Kindergarten. By the end of first grade he could not read, had difficulty distinguishing a letter from a number and could not count to 15 without omitting numbers. Only when MNRI® gave him access to the neurosensorimotor support of his own internal reflex system, could he begin to benefit from the other resources available at home and school.

There are no words that can express the love and gratitude that I send out to this family for giving me the opportunity to introduce them to the Masgutova Method®. It is with delight to see the positive, significant change that comes to a child’s life when the words on a page come to life and have meaning. The changes came in such a manner that it took us a month or so to realize that we could not spell words in conversations any more. This young boy was understanding all that we said and spelled! I always know that that the MNRI® processes work, but I am always taken back each and every time I see the evidence again in front of me and the change it has in the lives of our children and families. – Patty Shackleford