An Investigation of the Effects of MNRI® Techniques on the Educational Performance of Kindergarten Students

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Abstract

Three speech language-pathologists and one physical therapist who work in several private and public schools in southwest Louisiana undertook this project. After taking the *MNRI® Maximizing Brain Potentials* program, we, the authors, became interested in the possibility of implementing this MNRI® program in a few of the schools they worked in and to research what improved academic progress may occur in the childrens' learning. The research was planned in three different kindergarten classes at two different schools. The goal of this research was to find out if the MNRI® techniques would affect the education performance of kindergarten students as measured by their performance on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) thus increasing overall reading skills. Due to the limited time each therapist had to spend in each class, we decided that the participating kindergarten classes would be provided the *MNRI® Archetype Movement* DVD (8 standing poses/exercises). The kindergarten teachers were requested to use the DVD daily in the designated classrooms.

Clockwise from left: Tina Marks, Laurie Callaba, Lisa Ortego, and Emily Pelican

Introduction

Four different therapists working in several private and public schools in southwestern Louisiana undertook this project. An analysis of the results of the childrens' school skills and educational work for the last several years in these schools showed that there was a puzzling lack of academic progress demonstrated by many students while receiving traditional reading intervention techniques. The schools included a mixture of low and middle-income families. The progress for these students was measured according to the results on their early literacy skills assessments (indicators on the DIBELS). Prior to the start of school in August 2013, the 4 therapists and 40 teachers from Reeves, LA and surrounding areas attended the *MNRI® Maximizing Brain Potentials* course taught by Dr. Patty Shackleford. After completing this program, they investigated the possibilities of implementing this MNRI® program and researching if any academic progress would occur in the identified students' academic progress as a result of implementing the MNRI® Archetype Movements. The research was planned in two different schools, Reeves High School and Kinder Elementary School, in three of their kindergarten classes. It was determined that a comparison of the results in overall reading skills of children could

be noted as measured by their performance with DIBELS before and after implementing the MNRI® program. Due to the limited time each therapist had to spend in each class, it was decided that two of the kindergarten classes would use the DVD showing the MNRI® Archetype Movements (8 standing poses/exercises) daily. The teachers in these two kindergarten classes had completed the *MNRI® Maximizing Brain Potentials course*. The third kindergarten class was used as a control group. The teacher in this class did not take the *MNRI® Maximizing Brain Potentials* course nor was she using the MNRI® Archetype Movements with her class.

For clarity in this study, Reeves High School Kindergarten Class is labeled **Class # 1** (with MNRI® intervention), a kindergarten class in Kinder Elementary School is labeled **Class # 2** (also with MNRI® intervention), and a second kindergarten class in Kinder Elementary School is labeled **Control Class # 3** (with NO MNRI® intervention) as our control group.

Assessment Tool and Therapeutic Techniques

"The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) are a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through the sixth grade... [It's] fluency measures [are] used to regularly monitor the development of early literacy and early reading skills." The DIBELS is *"comprised of seven measures to function as indicators of phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary...[It] was designed for use in identifying children experiencing difficulty in acquisition of basic early literacy skills."* (Good, pg. 1.) The Reading Coach and Reading Interventionist administered the DIBELS three times a school year in August, January, and May. Once data was analyzed, intervention groups were formed based on the scores. The students were then grouped according to their score: core (benchmark with no support needed), strategic, and intensive. The strategic and intensive groups received direct intervention services. These students had their progress monitored by the teacher every two to three weeks based on student need and performance.

MNRI® Archetype Motor Patterns – A child is born with a complex of natural motor resources – reflexes and primary movements. These movements present the basis for the genetic motor 'programs' of human development to create the nerve net system and myelination, determining brain maturation and functioning as a child grows (Masgutova, 2011; Teitelbaum, P., Teitelbaum, O., et. al. 2002; Rentschler, 2013). The education of a child uses all these resources as physiological indirect support of cognitive functions (Vygotsky, 1986).

Learning, planning, and the development of inner control are some of the most important functions of the brain's cortex. Successful development of these skills ultimately depends upon the physiological maturation of the brainstem (myelination of the extrapyramidal nerve net) through early movements and sensory motor integration which are the foundation of human development. Movement, behavioral, and learning challenges often result when reflex patterns do not develop properly, are immature, and/or poorly integrated in comparison with typical patterns of development. In addition, primary reflex patterns may not function appropriately following significant life stressors and/or trauma that children and adults may experience. In fact, data collected from thousands of MNRI® Assessments over the past 30+ years has demonstrated that, as the number of non-integrated primary motor reflex patterns in neurotypical children increase, the number and severity of learning challenges correspondingly increases (Masgutova, S., Masgutov, D., 2013).

In the primary motor system we recognize Archetype Movements as the most global and general motor 'constructions' determining bio-mechanical functions and strategies of motor activity. A child during development and spontaneous learning incorporates these innate bio-mechanic aspects of movements with primary cognition including focusing, curiosity, memorizing, comparing, classifying, analysis, visualization, and abstract thinking. The specific patterns of these innate bio-mechanics are identified as Archetype Movement patterns: These include:

Intentional Movements
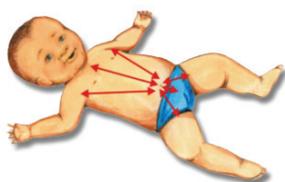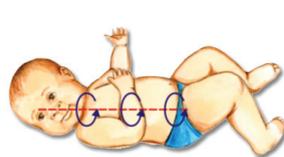
Core-Limbs Flexion-Extension   Mouth – Spine rotation   Trunk Extension   Lateral Spine Flexion-Extension

Homologous movement   Homolateral movement   Cross-Lateral Movement   Intentional/Differentiated Movement
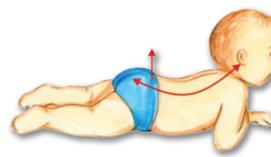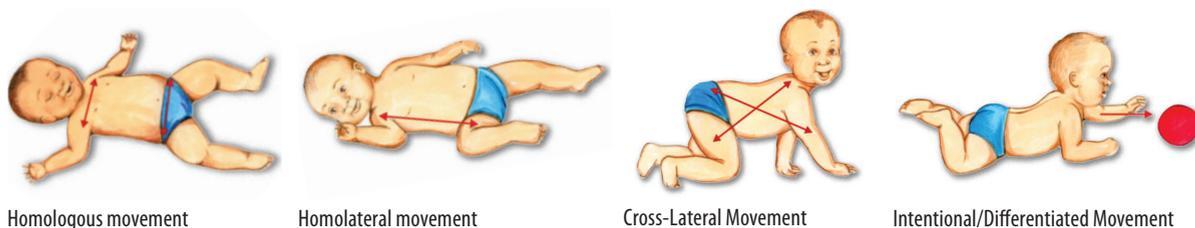
- Core-Limbs Flexion-Extension – Six Ended Star
- Horizontal Spine Rotation – mouth-spine rotation
- Vertical Spine Compression – trunk extension
- Lateral Spine Flexion-Extension – lateral leaning (to sides)
- Homologues Movements – bilateral activities
- Homolateral Movements – one-sided activities
- Cross-Lateral Movements – opposite limbs movements
- Intentional Movements – goal-oriented/consciously controlled activities

Each of the Archetype Motor patterns creates the basis for the similar motor construction of various reflex patterns.

Method

Participants. The participants of this study include kindergarten children in two schools – Reeves High School (Class # 1) in Reeves, LA and Kinder Elementary School (Classes # 2 and 3) in Kinder, LA. Both schools are in Allen Parish, Louisiana. The total number of students involved in this study initially was 64. As happens in any classroom, several children moved in and out of classes due to being new to the area or moving out of the area. Therefore, only the students who began the school year and remained all year long were used in the study. The final break out was 15 in Class # 1 and 40 in Classes # 2 and 3 for a total of 55 students.

Materials. In this study, each student was administered the DIBELS which are a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through the sixth grade. This assessment is administered three times each year in August, January, and May:

- the Beginning of the Year DIBELS assessment consisted of the First Sound Fluency (FSF) and Letter Naming Fluency (LNF) (a Composite Score is obtained from these two scores)
- the Middle of the Year DIBELS assessment consisted of the First Sound Fluency (FSF), Letter Naming Fluency (LNF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency (NWF) (a Composite Score was obtained from these four scores)
- the End of the Year DIBELS assessment consists of the following measures: Letter Naming Fluency (LNF), Phoneme Segmentation Fluency (PSF), and Nonsense Word Fluency (NWF) (a Composite Score was obtained from these three scores).

For research purposes, we tracked FSF and PSF for Middle and End of the Year Composite Scores.

"The DIBELS First Sound Fluency (FSF) is a standardized, individually administered assessment that provides a measure of phonemic awareness skills in the beginning and middle of kindergarten" (http://dibels.uoregon.edu/market).

 "The DIBELS Phoneme Segmentation Fluency (PSF) measure is a standardized, individually administered test of phonological awareness." (Kaminski & Good, 1996). The PSF measure assesses a student's ability to segment three- and four-phoneme words into their individual phonemes fluently. (http://dibels.uoregon.edu/market).

The following chart indicates the kindergarten benchmark goals and cut off points for risk based on the numeric scores at the beginning, middle, and end of the year testing (http://dibels.org/papers/DIBELSNext-BenchmarkGoals.pdf). *"The DIBELS benchmark goals are used to identify students who need additional instruction in order to become successful readers… The cut off points for risk indicate a level of skill below which the student is unlikely to achieve subsequent reading goals without receiving additional, targeted instructional support. Students with scores below the cut off point for risk are identified as likely to need intensive support… Between a benchmark goal and a cut off point for risk is a range of scores… referred to as strategic support."* (http://dibels.org/papers/DIBELSNextBenchmarkGoals.pdf.)

The kindergarten teacher in Class # 1 and 2 were instructed in MNRI® standing Archetype Movements and reflex dance techniques and given the *MNRI® Archetype Movement* DVD with the instructions to use it daily with the entire total class with the exception of the Control Class #3. They did not use any MNRI® techniques.

Procedure

Class # 1 started the school year with 17 students. One student moved in the fall and two other students transferred into the class around midyear. One of these students then transferred to another

Kindergarten: Benchmark Goals and Cut Point for Risk					
Measure	Score Level	Likely Need For Support	Beginning of Year	Middle of Year	End of Year
DIBELS Composite Score	At or Above Benchmark	Likely to Need Core Support	26 +	122 +	119 +
	Below Benchmark	Likely to Need Strategic Support	13 – 25	85 – 121	89 – 118
	Well Below Benchmark	Likely to Need Intensive Support	0 – 12	0 - 84	0 – 88
FSF (First Sound Fluency)	At or Above Benchmark	Likely to Need Core Support	10 +	30 +	
	Below Benchmark	Likely to Need Strategic Support	5 - 9	20 – 29	
	Well Below Benchmark	Likely to Need Intensive Support	0 - 4	0 – 19	
PSF (Phoneme Segmentation Fluency)	At or Above Benchmark	Likely to Need Core Support		20 +	40 +
	Below Benchmark	Likely to Need Strategic Support		10 - 19	25 – 39
	Well Below Benchmark	Likely to Need Intensive Support		0 – 9	0 – 24
NWF-CLS (Nonsense Word Fluency-Correct Letter Sounds)	At or Above Benchmark	Likely to Need Core Support		17 +	28 +
	Below Benchmark	Likely to Need Strategic Support		8 – 16	15 – 27
	Well Below Benchmark	Likely to Need Intensive Support		0 – 7	0 - 14

The benchmark goal is the number provided in the "At or Above Benchmark" row. The cut off points for risk indicate a level of skill below which the student is unlikely to achieve subsequent reading goals without receiving additional, targeted instructional support. (Source: https://dibels.org/papers/DIBELSNextBenchmarkGoals.pdf)

school system prior to the DIBELS End of the Year testing. Results of the study are provided on the 15 students who remained from the beginning of the year through the end of the year.

In Class # 1, the two students who transferred into the school were not receiving MNRI® techniques at their previous school. It should also be noted that this class does not have any special education students. Two students repeated kindergarten and two students were screened for special education services. Of the two screened for special education services, only one repeated kindergarten. However, by the time the evaluation referral process should have occurred, the referrals for that evaluation were no longer valid due to gains made through use of MNRI® techniques. The teacher used the following MNRI® techniques daily for whole group instruction: *MNRI® Archetype Movements* DVD in the morning, Hands Supporting Reflex against the wall during bathroom breaks. ATNR dance reaching for sight words on the word wall, and cross tap for counting, ABCs, and any other rote activity MNRI® could be incorporated into. During small group activities, she used ATNR from repatterning, STNR (daily at the beginning of the year), and Archetype Movements before reading. Around midyear she added all phases of Robinson Hand Grasp and manual skills for fingers. At mid year, the speech therapist (an MNRI® Core Specialist-in-Training), pulled one student weekly using specific techniques addressing negative transitions – severe anger and coping issues. The teacher also pulled two other struggling students who were demonstrating weaknesses in basic gross and fine motor skills.

Class # 2 began the school year with 23 students. One student transferred in mid fall from another kindergarten class within the same school to this class at the parent's request. At both the middle and end of year DIBELS testing 24 students were in the class. This class had three special education students, and two additional students receiving speech and language therapy. From August through December 2013, this class did not use any MNRI® techniques in the classroom, in the special education setting, or in the speech and language therapy. Results of the study are provided on the 22 students who remained from the beginning of the year through the end of the year. In January the teacher began using the following MNRI® techniques daily for whole group instruction: *MNRI® Archetype Movement* DVD in the morning, Hands Supporting against the wall during bathroom breaks, ATNR dance and Spine Rotations for sight words on the word wall, Robinson Hand Grasp dance, cross tap for counting, ABCs, and any other academic activity MNRI® could be incorporated into. The teacher also used Archetype Movements during small group activities. In October, one of the regular education students in this class was screened by the school's occupational therapist (OT) to evaluate concerns in fine motor control. This student was found to be a couple months delayed but did not meet the state requirements to qualify for OT services through the school system, so the OT recommended a 6 month follow-up.

When the six months follow-up evaluation was completed in April 2014, the student was rescreened and was found to have gained a year in fine motor skills and was not in need of OT services. It does need to be noted that one of the special education students, about whom the teacher reported great gains in academic skills in the classroom, declined in the scores on the end of year District Common Assessment: a 9% decrease in Math and a 33% decrease in English Language Arts. This special education student was reported to have had a seizure at the beginning of May 2014. The seizure activity may have caused neurological deficits and may be a reason for the decline on the assessment. Doctors are evaluating other areas of decline noted in this student: regression in developmental skills including gross motor, fine motor, cognition and speech. Due to his medical issues, he was removed from the study.

Control Class #3, our control group, began the school year with 24 students. Three students moved and one student transferred into the class by midyear. At the middle of the year DIBELS testing in January 2014, there were 21 students in the class. By the end of the school year, 3 students moved and 2 that had moved at mid-year transferred back into the class. The end of the year DIBELS testing in May included 21 students. However, results of the study are provided on the 18 students who remained from the beginning of the year through the end of the year. In this class there were two special education students with one repeating kindergarten and two students who received intervention for speech and language. One of the intervention students was recommended for a full evaluation for special education placement. This class received no MNRI® techniques or additional exercises in their curriculum.

It should be noted that all students in the study received scores on all assessments and composites. The scores of zero are actual scores that they received rather than lack of participation on that particular assessment/composite.

Results & Discussion

First Sound Fluency (FSF)

FSF measures the phonemic awareness skills in kindergarten students. It was only assessed on the Beginning and Middle of the Year Assessments. It should be noted that the benchmark score on the Beginning of the Year Assessment was 10 and the Middle of the Year Assessment benchmark score was 30.

(See graph at right.) In **Class # 1**, on the Beginning of the Year Assessment for FSF, 3 students (20%) scored in the at risk group which indicated intensive interventions, 0 students scored some risk, and 12 students (80%) scored core or low risk which indicated no need for interventions. On the Middle of the Year Assessment for FSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored some risk, and 15
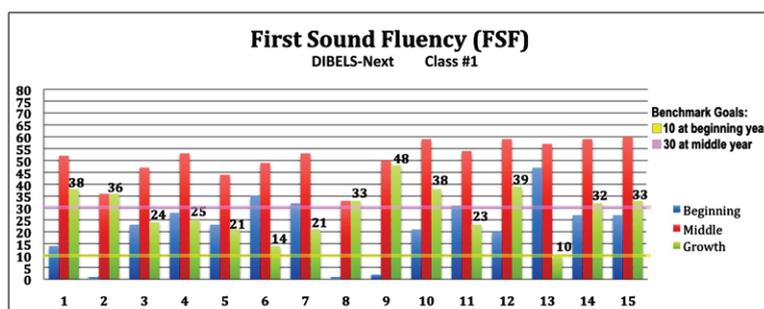

students (100%) scored core or low risk which indicated no need for interventions. The average growth between the Beginning of the Year Assessment and Middle of the Year Assessment was 29 points. The greatest point gain was 48 points and the lowest point gain was 10 points. Despite the lowest point gain of 10 points, this student still scored 37 points higher than the Beginning of the Year Assessment benchmark criteria and 27 points higher than the Middle Assessment benchmark criteria. The student who made the greatest gain scored 2 points on the Beginning of the Year Assessment criteria (8 points below benchmark criteria) and by the Middle of the Year Assessment scored 50 points (20 points above benchmark criteria).

(See graph at right.) In **Class #2,** on the Beginning of the Year Assessment for FSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 students scored some risk, and 22 students (100%) scored core or low risk which indicated no need for interventions. On the Middle of the Year Assessment for FSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored some risk, and 22 students (100%) scored core or low risk which indicated no need for interventions. The average growth between the Beginning and Middle of the Year Assessments was 28 points. The greatest point gain was 48 points and the lowest point gain was 12 points.
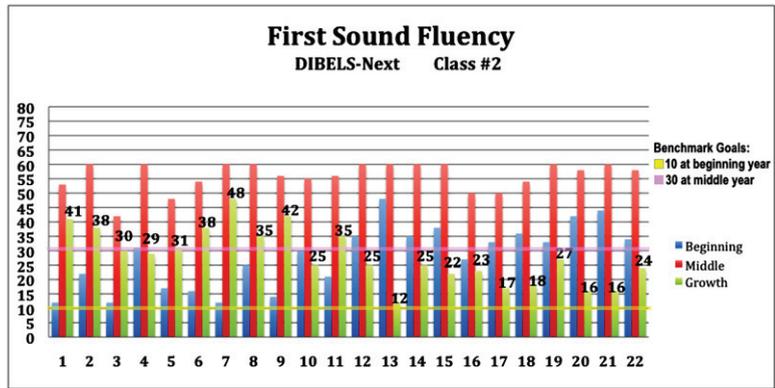
(See graph at right.) In **Control Class #3** (control group) on the Beginning of the Year Assessment for FSF, 7 students (39%) scored in the at risk group which indicated intensive interventions, 1 student (6%) scored some risk, and 10 students (55%) scored core or low risk which indicated no need for interventions. On the Middle of the Year Assessment for FSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 1 (6%) student scored some risk, and 17 students (94%) scored core or low risk which indicated no need for interventions. The average growth between the Beginning and Middle of the Year Assessments was 34.4 points. The greatest point gain was 54 points and the lowest point gain was 20 points.
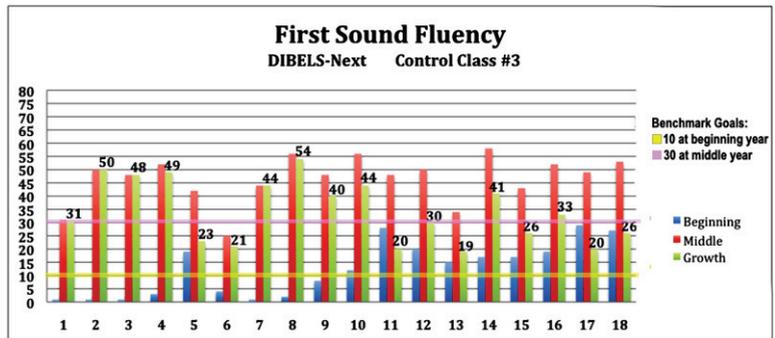
Phoneme Segmentation Fluency (PSF)

Phoneme Segmentation Fluency (PSF) assesses a student's ability to segment three and four phoneme words into their individual phonemes fluently within one minute. The benchmark scores for the Middle of the Year Assessment was 20 and End of the Year Assessment was 40. (PSF was only administered during the Middle and End of the Year Assessments.)

(See the graph at right.) In **Class # 1**, on the Middle of the Year Assessment for PSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored some risk, and 15 students (100%) scored core or low risk, which indicated no need for interventions. On the End of the Year Assessment for PSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored core or low risk which indicated no need for interventions. The average growth between the Middle and End of the Year Assessment was 15.3 points. The greatest point gain was 46 points and the lowest point gain was -3 points. Despite the lowest gain being -3 points, this student still scored 18 points higher than the core/low risk score.
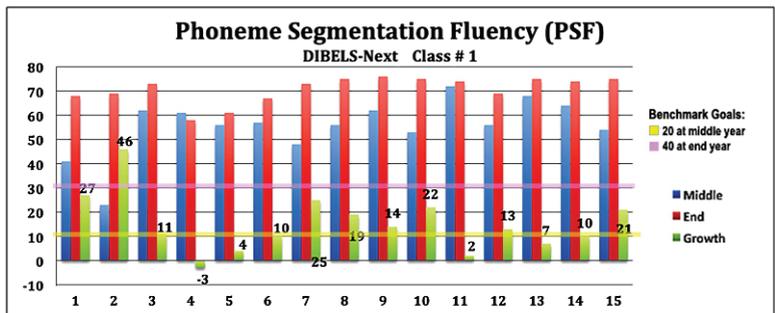
(See graph at right.) In **Class #2**, on the Middle of the Year Assessment for PSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored some risk, and 22 students (100%) scored core or low risk which indicated no need for interventions. On the End of the Year Assessment for PSF, 0 students (0%) scored in the at risk group which indicated intensive

interventions, 0 (0%) students scored some risk, and 22 students (100%) scored core or low risk, which indicated no need for interventions. The average growth between the Middle and End of the Year Assessment was 7 points. The greatest point gain was 38 points and the lowest point gain was -9 points. This student who had the lowest point gain still scored 16 points above the core/low risk score.
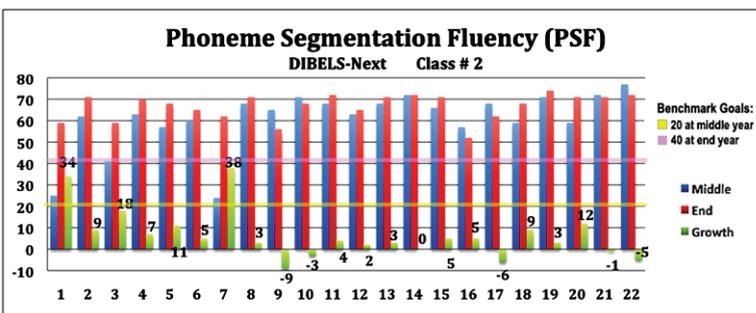
(See graph at right.) In **Control Class #3** (control group), on the Middle of the Year Assessment for PSF, 0 students (0%) scored in the at risk group which indicated intensive interventions, 1 (6%) student scored some risk, and 17 students (94%) scored core or low risk which indicated no need for interventions. On the End of the Year Assessment for PSF, 0
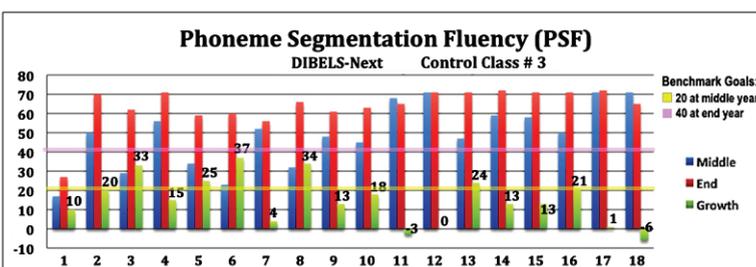

students (0%) scored in the at risk group which indicated intensive interventions, 1 (6%) student scored some risk, and 17 students (94%) scored core or low risk which indicated no need for interventions. The average growth between the Middle and End of the Year Assessment was 15.1 points. The greatest point gain was 49 points and the lowest point gain was -4 points.

Composite Scores

The Composite Scores from the Beginning and End of the Year assessments were compared. Benchmark score on the Beginning of the Year assessment Composite was 26 or more and the End of the Year assessment Composite benchmark score was 119 or more.

(See graph at right.) In **Class #1**, on the Beginning of the Year Assessment Composite, 2 students (13.3%) scored in the at risk group which indicated intensive interventions, 2 (13.3%) student scored some risk, and 11 students (73.3%) scored core or low risk which indicated no need for interventions. On the End of the Year Assessment Composite, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored some risk, and 15 students (100%) scored core or low risk, which indicated no need for interventions. This class ended the school year

with all students at or above the benchmark score and therefore not needing interventions. The highest End of the Year Composite score was 119 points higher than the benchmark score.
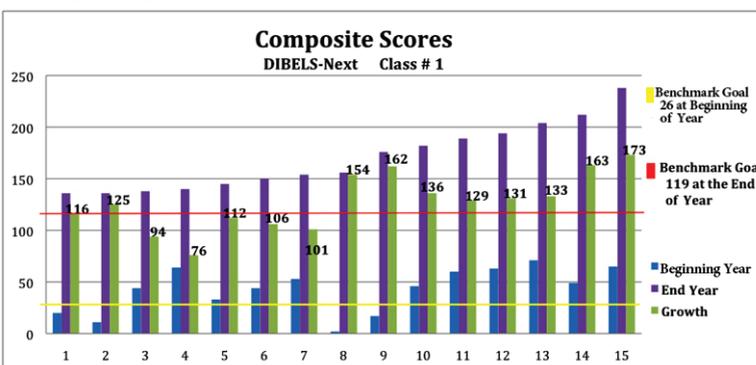
(See the graph at right.) In **Class #2**, on the Beginning of the Year Assessment Composite, 0 students (0%) scored in the at risk group which indicated intensive interventions, 1 (4.5%) students scored some risk, and 21 students (95.5%) scored core or low risk which indicated no need for interventions. On the End of the Year Assessment Composite, 0 students (0%) scored in the at risk group which indicated intensive interventions, 0 (0%) students scored some risk, and 22 students (100%) scored core or low risk, which indicated no need for interventions. Both the Beginning and End of the Year Assessments indicated that all students scored at or above the benchmark scores. The highest End of the Year Composite score was 148 points higher than the benchmark score.
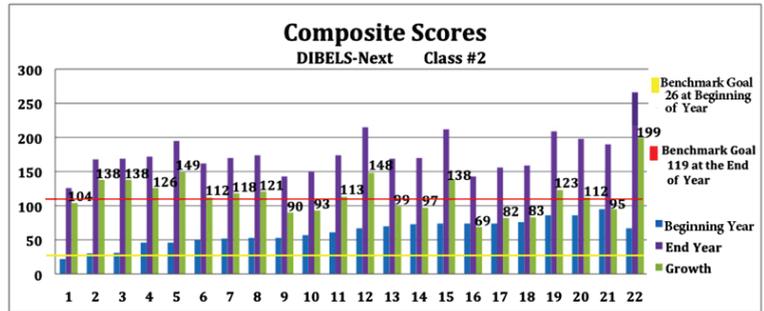
(See the graph at right.) In **Control Class #3** (control group), on the Beginning of the Year Assessment Composite, 3 students (16.7%) scored in the at risk group which indicated intensive interventions, 3 (16.7%) student scored some risk, and 12 students (66.6%) scored core or low risk which indicated no need for interventions. On the End of the Year Assessment Composite, 1 student (6%) scored in the at risk group which indicated intensive interventions, 1 (6%) student scored some risk, and 16 students (88%) scored core or low risk, which indicated no need for interventions. The lowest Composite of the Year score was 36 points below the benchmark score. The highest End of the Year Composite score was 118 points higher than the benchmark score. This control class was the only class in the study to have students in interventions due to their Composite scores.
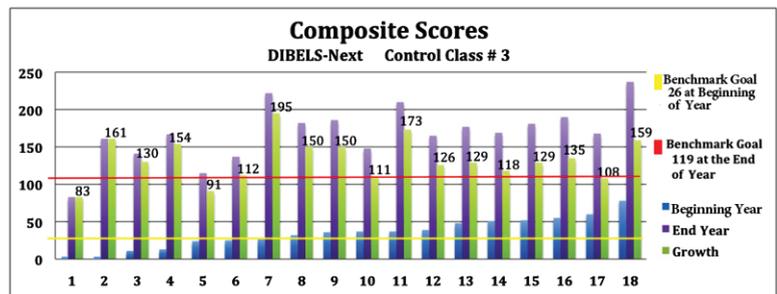
Conclusion

Based on the results of the preliminary testing, our research indicates that using daily MNRI® Archetype techniques had a positive effect on the education performance of kindergarten students as measured by their performance on DIBELS, thus increasing their overall reading skills:

• the Beginning of the Year Assessments showed Class # 1 as being ranked with the lowest reading scores in the parish but, based on the End of the Year Composite Score, it was then ranked as having the highest reading scores in the parish.

• Class # 1 showed a significant decrease in students scoring at the intensive intervention level and in students needing strategic and intensive interventions.

• Class #2 also showed the same trend as the Class # 1. There was a decrease in students needing intensive and strategic interventions. A difference between the Class #1 and Class #2 was that Class #2 started the school year as a stronger overall class as compared to Class #1.

• Control Class #3 overall had more students needing intensive and strategic interventions and also had the smallest percentages of students scoring at the core support level.

Our research concludes that use of MNRI® Archetype techniques in Classes # 1 and 2 resulted in a significant increase in students scoring at core support as measured by the DIBELS. These classes also showed a significant decrease in intensive and strategic interventions. Therefore, it is believed that the MNRI® techniques had a positive effect on the academic skills of these two kindergarten classes as measured by the DIBELS.

Back in the classroom, how were the faces and lives of the students behind the research affected by this research? One kindergarten teacher began who began the school year (in August) using MNRI® techniques

offered this perspective of its impact on her class:

"As a kindergarten teacher facing the 'horrors' of Common Core in the classroom and the rigor and high expectations of my young students, I was blessed to have the Masgutova Method® introduced to me by Tina Marks, SLP and MNRI® Core Specialist. I began using the Archetype DVD in March of my first year, and saw such great results in that classroom that I was excited and ready to see what a whole year of implementation could do.

At the beginning of the 2013-14 year, I attended a Maximizing Brain Potential Class *taught by Dr. Patty Shackleford and felt ready to tackle the year. These are the ways I implemented the method in my classroom (Class # 1), and the results I received from that implementation:*

• I used the MNRI® Archetype Movements *DVD (Thomas DVD) every morning as the announcements were being made. Later, as the students were able to do the movements without my help, I would do it during my carpet time, and throughout the day, with student leaders leading it instead of the DVD. As the student leaders led, I walked around, correcting some postures, and encouraging some lazy bones.*

Results: Less discipline issues on the floor; better attention and retention of the concepts taught all day, not just during carpet time.

• My reading intervention group consisted of the students who had the lowest reading scores based on the DIBELS assessment. This intensive reading intervention consisted of 30-45 minutes of daily instruction. With the permission of my principal and Literacy Coach, I did reflex integration with the group for the first 15 minutes. The reflexes we worked on were ATNR and STNR (on the floor as a group); Robinson's Hand Grasp and Sequential Hands Opening and Closing (using a musical rhyme Diane Whiteside created).

Results: I saw movement from children with intensive intervention scores on the DIBELS test come up to benchmark level. (Beginning of the Year Composite Scores of 12 points or less are considered intensive and End of the Year Composite Scores of 119 or more are considered benchmark.) All my students, including the 6 at intensive level in my group, scored on-level, ready for first grade! Not only that, but my low-income class scored the highest on the DIBELS test in the whole parish for kindergarten! Also, we saw impressive handwriting improvement from all students.

Other reflexes used during the day were Hands Supporting on the wall by the bathroom and with partners at their desks; mouth-spine rotation (Archetype Movement) before a test or while studying sight words and math facts; Babinski foot walking (walking on the outside of the feet when going outside), and whatever else I could create to fit into the day."

 – April Dunnehoo, Kindergarten Teacher

References

Good, R. H., Kaminski, R. A. (2014). *What are DIBELS?* Dynamic Measurement Group. https://dibels.org/dibels.html

Masgutova, S. (2011). *Infant dynamic and postural reflexes. Neuro-sensory-motor reflex integration.* Revised and edited. Scientific-practical manual. Orlando, FL, USA: SMEI. 190 p.

Masgutova, S., Masgutov, D. (2012). *MNRI® archetype movement integration. A blueprint for movement and cognitive development.* Orlando, FL, USA: SMEI 92 p.

Masgutova, S., Masgutov, D. (2013). *Maximizing brain potentials in the classroom with MNRI®.* Orlando,FL, USA: SMEI.

Rentschler, M. (2013) *Dynamic & postural reflex integration - The heal. (class outline)* published online at www.e-bookspdf.org.

Teitelbaum, P., Teitelbaum, O. B., Fryman, J. and Maurer, R. G. (2002). *Infantile reflexes gone astray in autism.* (available online at www.moveplaythrive.com.)

Vygotsky, L. *The child psychology. The problems of child development.* In 6 Books. Book – 4. Moscow, Russ: Pedagogika.

https://dibels.uoregon.edu/market/assessment/resources/benchmarkgoals.php#3kindergarten

https://dibels.uoregon.edu/market/assessment/measures/psf.php

https://dibels.uoregon.edu/market/assessment/measures/isf.php

https://dibels.uoregon.edu/market/assessment/measures/fsf.php

https://dibels.uoregon.edu/market/assessment/measures/lnf.php

Dear children, Congratulations for your for excellent results in early sensory-motor patterns and reflex integration, and thank you teachers and parents for all support and participation in our research! – MNRI® Team