StepUp to Learn

StepUp to Learn Case Study

AT A GLANCE

Student Name

Emily

Student Age

8

Therapist

Marilyn Swearingin, CCC-SLP

NeuroNet Program Used

Integrated Rhythms

> *[Emily's parents] have become increasingly concerned because Emily still goes up and down stairs non-reciprocally, cannot jump rope, nor ride a bicycle.*

STUDENT'S BACKGROUND PRIOR TO NEURONET

Emily is an eight year old in the third grade at a private school. She does not receive any special education services through the local school district. Emily was conceived as a result of in vitro fertilization and carried to full term. Developmentally, Emily was a late walker and an early talker. Significant health history includes fracturing the tibia at 12 months of age and again at 4. At birth she was diagnosed with Lordosis (curvature of the spine) and the presence of a sacral dimple. Emily had a few ear infections between the ages of 1 and 2 at which time she was considered for tubes.

PARENT CONCERNS

Emily's parents report that she has a close circle of friends and a very warm and loving personality. She makes good grades but has to work very hard for them. They have become increasingly concerned because Emily still goes up and down stairs non-reciprocally, cannot jump rope, nor ride a bicycle. She has difficulty with timed math tests, handwriting, and general gross and fine motor skills. Homework takes an excessive amount of time. They are concerned she is falling behind and feel her self-esteem is suffering.

RESULTS OF INITIAL NEURONET EVALUATION

On the day of the evaluation Emily was friendly and willing to try the new activities introduced to her. She uses her left hand, left foot, and is left eye dominant. Optokinetic nystagmus was present. Postrotary nystagmus was not. A NeuroNet evaluation was performed to observe automatic functioning in the areas of vestibular, visual, auditory, visual-verbal functioning, and fine motor sequencing.

Jumping and one-footed standing balance were done to assess vestibular functioning. Emily was able to integrate arms and legs during jumping jacks for the first six, stopped at 32 (possible 60) and she completed a total of 45 stopping 5 times. Emily chose to stand on her right foot during one-foot standing balance and lost her balance 4 times during 15 seconds. When she stood on her left (dominant) foot she lost her balance 2 times during 15

RESULTS OF THE INITIAL NEURONET EVALUATION:

Maximum Possible Score

4

Expected Total Score for an Eight-Year-Old

3.5 - 4

Emily's NeuroNet Score

1.6

Automaticity of auditory memory was tested by having Emily stand on a low stool and swing and bump weights in a rhythmic pattern while saying "bump bump" between each number or letter.

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seconds. She was unable to maintain balance with her eyes closed for more than a second at a time.

Automaticity of auditory memory was tested by having Emily stand on a low stool and swing and bump weights in a rhythmic pattern while saying "bump bump" between each number or letter. Auditory memory for numbers was appropriate for her age, she completed 26 of 26. Auditory memory for alphabet was more difficult and she made it to the letter L. It was also noted that she was told to say, "bump bump," she actually said, "bum, bum." On red stick pattern, Emily was able to complete the verbal pattern, "up, down, side, side," but could not be given any points because she was unable to imitate the motor pattern accurately.

One-footed stool jumping, toe taps, and stepping up/ down are done to assess balance as well as sequential and symmetrical movement. Emily watched a video example first and was to complete the exercises with the video next. She did this for the next four items. On one-foot stool jumping she was able to maintain her hands on her hips and talk equally at 50%. In toe-taps she was able to complete the foot pattern and talking 50% of the time but had difficulty maintaining her hand position while doing the exercise. On stepping up and down she kept the foot and talking pattern most of the time but tended to lose the right hand position while maintaining the left. She kept her head tucked and hands down on all the forward rolls; none were straight but she was able to remember to do alternate return half of the time.

The final two activities involved paper-pencil tasks which assess automaticity of fine motor sequencing skills. She is required first to copy numbers and draw a distracter of a triangle after each number. This is followed by writing the numbers without a model and placing the distracter after each. Both are done in one minute time frames and compared. Letters are copied from a lower case model and are produced in both upper and lower case and compared with written letters without a model. She is expected to produce 26 numbers with distracters and 26 letters. She produced 15 copied numbers and 17 written numbers. She copied 14 letters and wrote 12 although she did reverse D and E, and J and K.

GAINS SINCE BEGINNING NEURONET LEARNING

After the second week of the program Emily's parents reported she was going up and down stairs reciprocally. At six weeks she got a perfect score on her timed Math test and was extremely proud of herself. During Level 3 Advanced, her parents phoned to report Emily just went outside on her own and started riding the bike. At the following visit she was noticeably more self-assured and completed 3 of the 4 assessments in under one minute, I have never seen her so excited! During Level 4 she was

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CONTINUED: GAINS SINCE BEGINNING NEURONET LEARNING

able to complete all of the exercises on her PE checklist including jumping rope. Overall, her parents were thrilled with her progress in the program and reported she was completing homework assignments in a timely manner.