



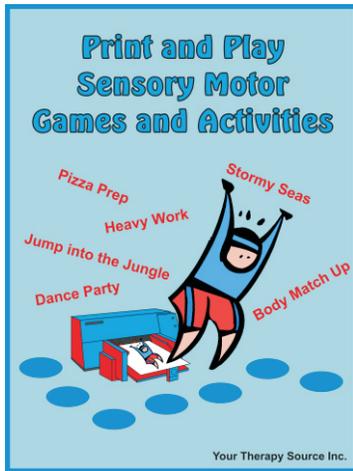
Your Therapy Source News

**Digital magazine for pediatric
occupational and physical therapists.**

Issue 28 - July 2011

www.YourTherapySource.com

New and Popular Products



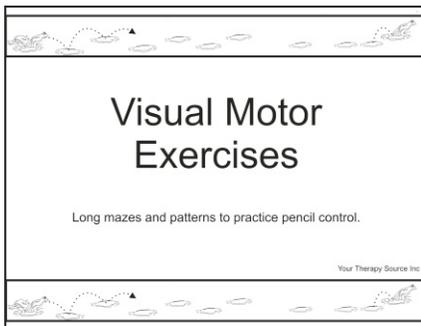
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Print and Create Fine Motor Projects - Summer:

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www.YourTherapySource.com/fmsummer

Cerebral Palsy

F

Frequency of Therapy for Children with Cerebral Palsy

The frequency of school based therapy and medically based therapy is not a completely objective process for children with cerebral palsy. Therapists seem to base recommendations on research, education and their own experiences. One type of frequency that I rarely see prescribed is intensive bursts of therapy followed by rest periods with no therapy. This type of frequency has research to back it up showing the benefits of intensive therapy periods such as:

- * improved motor outcomes following the intensive periods and even during the rest periods'
- * improved family centered care and communication
- * improved cost effectiveness

When prescribing intensive bursts of therapy, it is most beneficial to start during a transition phase which is a time of increased variability. This can be difficult to determine when that time periods occurs for each child. Following the intensive period the rest period allows the child to practice the new skills that were learned.

If you see motor changes in a child with increased variability in their movements, do you consider an intensive burst of therapy? Would love to hear from any therapists who do provide intensive bursts of therapy especially in the school setting? Any tips for how you schedule it would be helpful.

Reference: Karen Sauve and Doreen Bartlett (2010) Dynamic Systems Theory: A Framework for Exploring Readiness to Change in Children with Cerebral Palsy. Retrieved from the web on 6/20/211 at http://www.canchild.ca/en/canchildresources/dynamic_systems_theory.asp

V

Value of Walking

Recently a pilot study was published on the beliefs of parents and their children have regarding walking. Six parents and six children (GMCFS III or IV) participated in private interviews regarding social beliefs about walking. The qualitative analysis of the data revealed that parents felt that to be a "good parent" they needed to try anything to continue to have hope. If the parents stopped trying walking interventions this lead to guilty feelings. Children considered walking more of an exercise rather than a functional task. The children also internalized negative attitudes towards disabilities. The researchers concluded that rehabilitation providers need to make sure they are not unintentionally making possible harmful choices and how to best encourage families to make the right choices. They also recommend that the study be completed with a larger sample size.

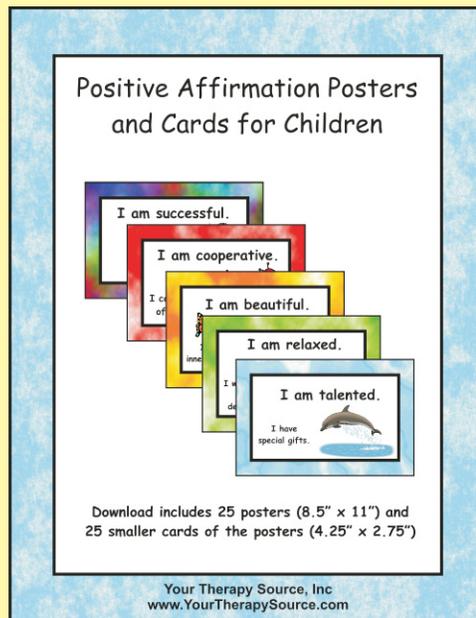
Reference: Gibson BE, Teachman G, Wright V, Fehlings D, Young NL, McKeever P. Children's and parents' beliefs regarding the value of walking: rehabilitation implications for children with cerebral palsy. *Child Care Health Dev.* 2011 Jun 22. doi: 10.1111/j.1365-2214.2011.01271.x. [Epub ahead of print]

Focus on the Positive

Recent research was published on the benefits of focusing on the positive traits in children with autism. An alternating treatment design was used with parents of children with autism. One intervention stressed the negative aspects of a child's disability and the other intervention focused on a child's strengths. The results indicated that the intervention that highlighted the strengths of the child resulted in the following:

1. Improved parental affect
2. Increased positive statements from parents about their children
3. Increased physical affection from parent to child

Reference: Amanda Mossman Steiner. A Strength-Based Approach to Parent Education for Children With Autism. *Journal of Positive Behavior Interventions* July 2011 vol. 13 no. 3 178-190



Positive Affirmation Posters and Cards for Children

List Price: \$8.99

www.YourTherapySource.com/positiveaffirmation

Movement and Learning

Running Speed and Learning

The hippocampus is responsible for attention, processing short term memory into long term memory and spatial navigation. During periods of concentration and learning, electrical signals called gamma rhythms are produced in the hippocampus. Recent research conducted in mice revealed that when running speed increased the gamma rhythm increased in the hippocampus. The researcher states the following:

"The gamma rhythm is known to be controlled by attention and learning, but we find it is also governed by how fast you are running," said Mehta, an associate professor of physics and astronomy, neurology, and neurobiology and the senior author of the study. "This research provides an interesting link between the world of learning and the world of speed."

Just a thought but considering that the limbic system (which the hippocampus is a part of) is involved in the pathophysiology of ADHD what does this recent mice study suggest? Could it be possible that running could decrease ADHD symptoms? How about autism where the hippocampus is also involved?

References: DeRose, Kim. Brain rhythm associated with learning also linked to running speed, UCLA study shows. Retrieved from the web on 6/29/11 at <http://newsroom.ucla.edu/portal/ucla/ucla-physicists-discover-surprising-208271.aspx>

Plessen KJ, Bansal R, Zhu H, Whiteman R, Amat J, Quackenbush GA, Martin L, Durkin K, Blair C, Royal J, Hugdahl K, Peterson BS. Hippocampus and amygdala morphology in attention-deficit/hyperactivity disorder. *Arch Gen Psychiatry*. 2006 Jul;63(7):795-807.

Stability Balls in the Classroom

The *American Journal of Occupational Therapy* published research on the use of stability balls in the classroom. Eight children who were highly likely to have attention deficit hyperactivity disorder were observed 3x/week for 12 weeks while using stability balls in the classroom. When the data was analyzed it revealed that while using the stability balls the following was observed: "increased levels of attention, decreased levels of hyperactivity, and increased time on task and in seat or on ball". A questionnaire that the teachers completed indicated that the teachers preferred the stability ball.

You can read the complete study here <http://ajot.aotapress.net/content/65/4/393.full.pdf+html>

Reference: Fedewa, A. L., & Erwin, H. E. (2011). Stability balls and students with attention and hyperactivity concerns: Implications for ontask and in-seat behavior. *American Journal of Occupational Therapy*, 65, 393–399. doi: 10.5014/ajot.2011.000554

Data Collection and the iPad

H

ere is a great way to collect observational data in the classroom if you want to compare students' skills and behaviors. We can state that a student is fidgety in class but wouldn't it be great if we had actual statistics comparing the student to their peers. Here is where the EasyTag app comes into play. This free app allows you to collect data on many students at one time. It is actually meant to calculate statistics for during sporting events such as how many shots did a player take during a basketball game. The great thing about this app is you can create whatever type of grid that you need. For example, if you want to compare how often a student moves during circle time compared to their peers you could do it like this:



The screenshot shows a 4x4 grid of colored boxes on an iPad screen. The top row contains names: Johnny (1), Susan (3), Megan (2), and 1 (1). The second row contains numbers: 1 (1), 8 (2), 7 (2), and 8 (1). The third row contains numbers: 1 (1), 18 (2), 11 (1), and 13 (1). The bottom row contains numbers: 10 (1), 15 (1), 12 (1), and 15 (1). The boxes are colored in various shades of red, orange, and green.

Step 1: Download Dart Fish Easy Tag on your iPad or iPhone.

Step 2: Open up app and touch the panels icon on the bottom. Now touch the + sign in the top right corner. Touch New Panel.

Step 3: Name the panel - for this example I will name it Movement. Select the grid you would like. For our example I selected 4x4 for 16 children in the classroom. Touch the Save button in the top right corner.

Step 4: Now you can edit each box with the student's names or just assign the students' numbers.

Step 5: Go back to Games by touching the icon on the bottom of the page. Select the + button and name the game. I used the date for the name of the game and touch save.

Step 6: Touch the game by date and tap the start button to begin data collection.

Step 7: Collect data. Each time a student is moving during circle time tap their name (or assigned number). Continue for the duration of circle time. Each time you tap a name or number each box changes colors. When done you can export the file and email it to yourself for written documentation.

Step 8: Bring documentation to meeting to show data that the child exhibits much more movement than their peers during circle time.

If you need more detailed directions just tap the "i" button at the bottom of screen and all the steps are available right on the iPad.

If the child is already receiving services perhaps you could collect data on whether different environmental modifications are affecting motor or behavioral outcomes. How about for Response to Intervention (RtI) to indicate that the current level of intervention is or is not effective for the student.

Hot Topics

Reactions to Colors

Recent research was published in a journal, *Emotion*, indicating that subjects ranging in age from 4th grade through college students reacted with increased force to the color red. In one experiment, 4th through 10th grade students had to pinch and hold open a metal clasp. Before attempting the task, the subjects had to look at a red or grey number. In another experiment, college students were asked to squeeze a hand grip after reading the word "squeeze" on a red, blue or grey background. In both experiments the subjects exerted more force under the red condition. In addition, the immediacy of the reaction was increased under the red condition for the college students.

Here is some additional information on how colors may possibly effect emotions:

Red - feelings of excitement, increased force

Blue - calming and productive

Green - calming and stress relief; restful color for the eye

Yellow- cheerful or anger; fatiguing color for the eye

Purple - independence and creativity

References: Physorg.com Color red increases the speed and strength of reactions. Retrieved from the web on 6/5/11 at <http://medicalxpress.com/news/2011-06-red-strength-reactions.html>

Color Wheel Pro retrieved from the web on 6/5/11 at <http://www.color-wheel-pro.com/color-meaning.html>

Caudate Nucleus, ADHD and Autism

Through the use of magnetic resonance imaging, a recent study indicated that 13 preschool children (ages 4-5) with ADHD had smaller volumes in the caudate nucleus than 13 preschool children without ADHD. The caudate nucleus is associated with learning, memory and motor control. In addition, the caudate volumes were significantly correlated with parental reports of impulsivity and hyperactivity. Cortical volumes were not associated with the severity of ADHD symptoms.

With regards to autism, research has suggested that the caudate nucleus is enlarged in adolescents and adults with autism. When an MRI study was performed on 88 young children with autism (ages 2- 4), there were no differences in caudate volume when compared to typically developing peers. They did find a difference in right and left caudate volume for children with early onset autism compared to those children with regression autism. Their data also suggested that smaller caudate volume was associated with more repetitive behaviors.

References:

Medical Xpress. Study of preschoolers with ADHD detects brain differences linked to symptoms. Retrieved from the web on 6/16/2011 at <http://medicalxpress.com/news/2011-06-preschoolers-adhd-brain-differences-linked.html>

International Society for Autism Research. Caudate Volume In Preschool Age Children with Autism. Retrieved from the web on 6/16/2011 at <http://imfar.confex.com/imfar/2011/webprogram/Paper9029.html>

On the Web...

Step By Step Recipes

Came across this awesome website for food preparation - [My Special Chef](#). It was created by a girl scout for her gold award. She has an interest in helping individuals with special needs especially her brother who has Down Syndrome. Not only is there step by step recipes and lessons plans you can download for FREE she has has a great page on [adapted cooking tools](#). You have to check out this website if you enjoy cooking with kids.

Arts Grant for Children who Learn Differently

The P. Buckley Moss Foundation is offering up to \$1000 of grant money in 2011:

"to support a new or evolving program that integrates the arts into educational programming. The purpose is to aid and support teachers who wish to establish an effective learning tool using the arts in teaching children who learn differently".

Find out more information at the [P Buckley Moss Foundation Website](#).

If you are an occupational therapist in the schools why not start a new arts program for the children that you work with? Or pass along the information to your school's art teacher.

Handwriting App

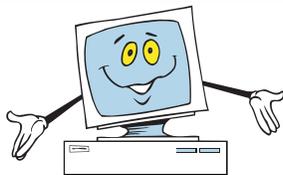
Check out this super fun, handwriting app on the iPad or iPhone - [skywrite](#). Basically, you can draw letters, objects or words on the screen and the plane writes them in the sky. You can even modify how the letters and shapes are drawn by changing the width of the smoke from the plane, the background and the music. You can speed up the letter formation and replay it. Once the letter or word is done tap on 3D and you can move it around the screen which is really cool. This is an entertaining, free, app to add to your handwriting app library. Oh I forgot you can also send the messages to people after you create them. This sure will make handwriting practice fun.

Grant Money for Music Therapy

Do you know of an established music therapy program where the participants create the music? Fender is offering grants from \$500 to \$5000 to music therapy programs that are ongoing, established and sustainable for 5 years. For more information visit the [Fender website](#).

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