

INSIDE THIS ISSUE

- 2 About Special Ed Tech
- 3 MathTech: Increasing empathy for students with disabilities
- 5 PlayWorthy: Using Squiggle Park with students with special needs
- 7 33 iPhone and iPad apps for students with special needs

Leveling Up

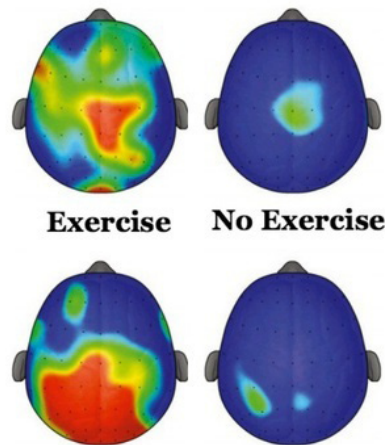
Earn CE certificates via many of these free and low-cost webinars, courses, and seminars. See edWeb.net, [Kent County ISDs PD Hub](http://KentCountyISDsPDHub.com), and ADDitudemag.com for additional instruction.

- **Understanding and Addressing Challenging Behaviors in the Classroom**, Tues., Feb. 7 at 2 p.m. EST on edWeb.net.

Cont. on [page 2](#)

Exercise is ADHD medication

by James Hamblin



Condensed from [The Atlantic](http://TheAtlantic.com)

The medical journal [Pediatrics](http://Pediatrics.com) recently published research that found kids who took part in a regular physical activity program showed important enhancement of cognitive performance and brain function. The findings, according to University of Illinois professor Charles Hillman and colleagues, “demonstrate a causal effect of a physical program on executive control, and provide support for physical activity for improving childhood cognition and brain health.” If it seems odd that this is something that still needs

Please see [Exercise on page 10](#)

Dance exercise videos for kids

Getting exercise is extremely important for kids to allow them to focus on studies. It has been called the “most effective drug for ADHD.” If you aren’t able to let your students run around outside as much as you’d like, here are some fun exercise videos on YouTube that the kids can follow while staying in one place in the classroom. These are perfect for showing on a whiteboard or any other device which can show an Internet page on a large screen.

Fitness workout for kids - 5 minutes of workout everyday (Dance Doo Daa)

<https://www.youtube.com/watch?v=KqSgzgsDeaU>

This video has dance-like moves and upbeat music with a multicultural flair. It starts gradually but provides some good aerobic workout. And you don’t have

Please see [Videos on page 2](#)

Leveling Up, continued from [page 1](#)

- **Rigor is NOT a Four Letter Word**, Tues., Feb. 7 at 4 p.m. EST on [edWeb.net](#).
- **Anxiety Disorders and Autism**, Thurs., Feb. 9, at 3 p.m. EST on [edWeb.net](#).
- **Teaching Students with Autism about Digital Citizenship**, Mon., Jan. 16 at 4 p.m. on [edWeb.net](#).
- **Draw Families Into School: Creativity Conversations with Parents**, Wed., Feb. 15 at 4 p.m. on [edWeb.net](#).
- **Turning Your Preschoolers into Lifelong Learners**, Thurs., Feb. 16 at 2 p.m. EST on [edWeb.net](#).
- **Five Tips for Getting Blended Learning Right**, Tues., Feb. 21 at 3 p.m. EST on [edWeb.net](#).
- **Fundraising Tips for Student Field Trips & Travel**, Tues., Feb. 21 at 5 p.m. EST on [edWeb.net](#).
- **Ignite Your Students with Passion, Creativity, and Energy**, Wed., Feb. 22 at 1 p.m. EST on [edWeb.net](#).
- **Self-Regulation in the Classroom: Helping Students Learn How to Learn**, Wed., Feb. 22 at 4 p.m. EST on [edWeb.net](#).
- **Strategies for Personalized Instruction and Implementation**, Thurs., Feb. 23 at 3 p.m. EST on [edWeb.net](#).

About Special Ed Tech / Subscriptions

Special Ed Tech, [specialedtech.net](#), is published monthly from September through May by the director of Aspiring Games Foundation, [aspiringgames.org](#).

To subscribe, go to [specialedtech.net](#), scroll to the subscription box on the bottom of the page, insert your e-mail address, and click the "Subscribe" button.

We welcome your questions and article suggestions. Direct all queries and subscription issues to editor Becky Palmer-Scott at SpecialEdTechEditor@gmail.com.

Videos, continued from [page 1](#)

to endure a long commercial beforehand.

Just Dance Videos

Captured from the popular "Just Dance" video game series, these videos show how to dance along to popular songs. There are many of them which you can find on YouTube -- just search for "Just Dance" on [YouTube.com](#).

To engage the class, let them vote on which ones they like, and/or let willing dancers lead the class so they can receive positive reinforcement.

Here are some favorites which really get kids moving. You'll want to monitor the screen to close any ads which might pop up.

- [I Like To Move It](#)
- [Yo Gabba Gabba - The Freeze Game](#)
- [The Hamster Dance Song](#)
- [Ghostbusters - Ray Parker Jr.](#)
- [YMCA - The Village People](#)
- [What Does the Fox Say](#)
- [Cotton-Eyed Joe](#)

Play enough of these and your students will be quite ready to sit down and study! 🐾

Math Tech: Increasing empathy for students with disabilities

by Kate Fanelli



Kate Fanelli

There are students experiencing non-productive struggle, with negative consequences.

I recently participated in a LiveChat through [Sevenzo](#), a non-profit, solution-oriented, teacher-focused organization focused on making sure every student has a sense of belonging at school. The topic of the LiveChat was “Accessibility, Inclusion and Social Justice”. After an hour, the theme was clear. Empathy. How do we create accessible learning environments where every child feels a sense of belonging? Empathy. The more we understand, identify with, and find commonality with our students with disabilities, the more we will achieve our goals of inclusion and accessibility.

Technology can help us with this. This month I present you with a 3-step recipe to begin, rejuvenate, or continue on your journey to accessible math instruction.

Step 1: Understand what happens if we do not meet our goals for students.

The [PBS Misunderstood Minds mathematics site](#) describes the implications for students who experience difficulty with math instruction. Go to the site and click on [“Try it yourself.”](#)

Simulated mathematics activities provide the reader with experiences similar to those that students who struggle experience all the time in their math classrooms. Articles and definitions provide additional information on why students struggle, the complexities of math learning, and what parents and teachers can do to help their students. The [“Difficulties with Mathematics” page](#) has a startling list of facts and statistics about students with math learning disabilities and their achievement and postsecondary life.

Step 2: Learn more about struggling in mathematics.

In his [Divisible by 3 blog](#), Andrew Stadel set up a Desmos activity to help his students, and teachers, understand “productive struggle.” Productive struggle is a commonly used phrase in math education that describes a state of discomfort that leads to learning. Learning is uncomfortable, and it is only through productive struggle that learning will happen. Letting students struggle through difficult problems is often thought of as productive struggle, and therefore a necessary, if not common, part of a math lesson.

However, if you followed Step 1, you now know there are students experiencing non-productive struggle, with negative consequences.

Go to [“Welcome to Productive Struggle”](#) (you can play without signing in) and answer the eight questions for yourself. It does not take long. Your responses are anonymous. They will, hopefully, help you reflect on how productively your students are struggling. Then, go to the [Productive Struggle blog part 2](#), and see how your reflections aligned with Mr. Stadel’s, who also has the benefit of seeing 100 responses to those questions at the time he wrote the blog. What feels like productive struggle for some, is not so productive for others. What you think, feel

*Please see **Math struggle** on next page*

Math struggle, continued from previous page

Learning more about how students' brains work, how that affects their learning, and what that means for your teaching will complete your journey towards deeper empathy and greater action on behalf of your students.

and do when you're frustrated may be very different than your students, so to even say people experience frustration does not have universal meaning.

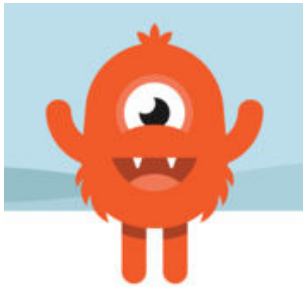
Step 3: Learn more about what your students may be experiencing.

So, you have read at PBS Misunderstood Minds about the stark future for students who persistently struggle with math. You experienced some of that frustration yourself in their simulated activities. Then you analyzed what that struggle means for you, and saw hundreds of data points of what struggle means for people who are not you.

Now go to [Mathlanding's collection of professional learning resources](#) to learn more about students with math learning disabilities. Learning more about how students' brains work, how that affects their learning, and what that means for your teaching will complete your journey towards deeper empathy and greater action on behalf of your students.

Follow (Mi)2 on Facebook (www.facebook.com/mi2.page) and/or Alt+Shift on Twitter (@AltShiftEd). Contact Kate at kate.fanelli@AltShift.education. 

Play Worthy Squiggle Park



Using Squiggle Park with students with special needs

By Sarah Rich
Squiggle Park's Lead Teacher

Squiggle Park is a new program which teaches foundational reading skills through bite-sized video games for kids. The games are built by teachers, researchers, and literacy specialists. Squiggle Park is built for Pre-K through second grade, but it can be used for older students with special needs. Teacher-friendly dashboards help teachers collect data to drive their instruction. It's fun, students love it, and it works!



Often times, students with special needs can find video games challenging. Here are some Squiggle Park features which address areas that could be a challenge:

Visual icons for logging in

Knowing the challenges that students face logging into programs, Squiggle Park provides visual icons that kids can recognize based on their interests. Squiggle Park also comes with a video that can help students learn to log in.

Visual directions on how to play

A visual demonstration and audio directions are given before each game. If needed, the directions will repeat, to remind the player how to play.

Educators can also access all worlds and levels to experience what their students are presented with at every step of the program.

Tools to avoid getting "stuck"

It is one thing to be able to identify an area of struggle and another to help remediate the issue. Squiggle Park has mini-lessons provided for every level of the game. These lessons can act as an "introductory support" before students enter a world or as an "ongoing support" if they need content reinforcement.

Mini-lessons can be used by teachers for teaching support in the classroom or to send home to parents to work on the student gaps.

Teachers can utilize dashboards to see where students are struggling and work with them individually to help them excel to the next level.

Dealing with "The wiggles"

Kids need to move! :) It is recommended to do an "energizer" activity before

*Please see **Squiggle Park** on next page*

Squiggle Park, continued from previous page

having students sit, so they can focus.

Squiggle Park combines visual, auditory, and kinesthetic learning, which helps to engage students and keep their attention.

Students have the ability to work at their own pace, so they can stop and take a break at any time.

Adjustable screen appearance

Squiggle Park is offered on multiple devices. Teachers can match the device to the child, and consider font size, adjust screen color and sound level.

If you would like to try Squiggle Park for free, a Pilot 2.0 begins in February 2017. The pilot will last until the end of the school year (June 2017). The requirements are:

- Teachers must have three or more Pre-K through 1st grade classrooms willing to pilot. Access to iPads or computers is required.
- It is recommended that students use Squiggle Park for 30 minutes each week. Some teachers have their students play everyday and others play 10 minutes a day 3 times a week. Another option is to add Squiggle Park into the literacy block station rotation.

To join the pilot, visit <http://squigglepark.com/pilot/>, and click on “Join the pilot”. While you’re there be sure to check out the free resources and PD videos.

Watch [this short video](#) to find out more about Squiggle Park pedagogy. 

You can try Squiggle Park for free through its pilot program.

33 iPad and iPhone apps for students with special needs

Check out
educatorstechnology.com

Here at *SpecialEdTech.net* we are always looking for valuable resources for our readers, and recently found out about a great one: educatorstechnology.com. This website is a frequently-updated blog which lists and reviews ed tech tools. The site recently posted [a list of iPad apps for students with special needs](#), which includes apps to deal with dyslexia, autism, visual impairments, and difficulty reading and writing. We have updated it and added more information for your convenience.

Apps for Learners with Dyslexia

Name	Description	Cost
Sound Literacy	Allows users to manipulate alphabet and phoneme tiles. Does not have audible playback. See YouTube review here.	\$9.99
Phonics Genius	Over 6,000 words by phonics sounds. Provides audible playback and customization. Highly rated.	Free
What is Dyslexia	Helps you understand dyslexia. Includes a video and a quiz.	Free
Dyslexia Quest	Games to test memory and learning skills.	\$9.99
Happy Math Multiplication Rhymes	Supports cognitive memorization of the multiplication facts.	Free
Read 2 Me	Allows full speech synthesis for an entire library of texts, including your *.txt files.	\$4.99
Phonics with Phonograms	Provides a complete picture of the phonograms needed to read and spell.	\$2.99
Dysegxia	Games to combat dyslexia. Targets reading and writing errors specific to dyslexic children.	Free
DD's Dictionary: A Dyslexic Dictionary	Allows independent discovery of an unknown spelling.	Free

Please see *iOS apps* on next page

iOS apps, continued from previous page

Apps for Learners with Autism

Name	Description	Cost
Sight Words	Flash card app to practice sight words based on Dolch Word list.	\$0.99
Sequences for Autism	Drag & drop sequences game for children with autism.	\$4.99
See, Touch, Learn	Flash cards with 4400 pictures and 2200 exercises. Lets you create custom lessons.	Free
Verbal Me Free	Allows nonverbal kids to touch graphic buttons which "speak" for them.	Free
Autism iHelp	Vocabulary teaching aid designed specifically for children with autism.	Free
Autism/DTT Shapes	Uses Discrete Trial Training (DTT) to teach basic shapes.	\$7.99
Autism/DTT Letters	Uses Discrete Trial Training (DTT) to teach the letters of the alphabet, including the difference between upper- and lowercase letters.	\$6.99
Speech with Milo	Speech therapy tool with animated flash cards. See YouTube demo .	\$2.99

Apps for Learners Who Are Visually Impaired

Name	Description	Cost
ViA - By Braille Institute	Tool to find apps built specifically for, or provide functionality to, users with a visual impairment.	Free
Dragon Dictation	Easy-to-use voice recognition app.	Free
Light Detector	Transforms light into sound.	\$2.79
Color ID	Use a iPhone or iPod camera to speak the names of colors in real-time.	Free
Tap Tap See	Helps identify objects using an iPhone camera.	Free

Please see iOS apps on next page

iOS apps, continued from previous page

Be My Eyes -- Helping Blind See	Allows sighted person to “see” for a blind person through a live video connection.	Free
Talking Calculator	A calculator with large colorful buttons, full VoiceOver support, and the option to use speech for answers, button names and formulas.	\$1.99
Voice	Take a picture of anything that has words and Voice will read it to you!	Free
Access Note	Official iOS notetaker from American Foundation for the Blind. Designed for VoiceOver users; keyboard commands customized for input with both QWERTY and refreshable braille display keyboards.	Free
Visual Braille	Braille editor for iPad.	Free

Apps for Learners with Writing Difficulties

Name	Description	Cost
The Writing Machine	Introduces pre-literacy concepts, including letter recognition and discrimination and how pictures and words go together.	\$0.99
iWrite Words	Teaches handwriting.	\$2.99
Letter School	Teaches how to write all the letters of the alphabet and numbers 1-10.	\$4.99
Alpha Writer	Learn to read, write, and spell phonetically. Designed on the Montessori method.	\$4.99
ABC Pocket Phonics	Teaches the basics of reading and writing to young kids.	\$6.99
Word Magic	Teaches reading at a preschool level. Award winning.	\$0.99

Do you have any favorite apps you would like to tell about? Write us at specialtedtecheditor@gmail.com..

Exercise, continued from [page 1](#)

support, that's because it is odd, yes. Physical activity is clearly a high, high-yield investment for all kids, but especially those attentive or hyperactive. This brand of research is still published and written about as though it were a novel finding, in part because exercise programs for kids remain underfunded and underprioritized in many school curricula, even though exercise is clearly integral to maximizing the utility of time spent in class.


The improvements in this case came in executive control, which consists of inhibition (resisting distraction, maintaining focus), working memory, and cognitive flexibility (switching between tasks). The images above show the brain activity in the group of kids who did the program as opposed to the group that didn't. It's the kind of difference that's so dramatic it's a little unsettling. The study only lasted nine months, but when you're only seven years old, nine months is a long time to be sitting in class with a blue head.

It may potentially be advisable to consider possibly implementing more exercise opportunities for kids.

Another study found that a 12-week exercise program improved math and reading test scores in all kids, but especially in those with signs of ADHD. (Executive functioning is impaired in ADHD, and tied to performance in math and reading.) Lead researcher Alan Smith, chair of the department of kinesiology at Michigan State, went out on no limb at all in a press statement at the time, saying, "Early studies suggest that physical activity can have a positive effect on children who suffer from ADHD."

A very similar study in the *Journal of Attention Disorders* found that just **26 minutes of daily physical activity for eight weeks** significantly allayed ADHD symptoms in grade-school kids. The modest conclusion of the study was that "physical activity shows promise for addressing ADHD symptoms in young children." The researchers went on to write that this finding should be "carefully explored with further studies."

"If physical activity is established as an effective intervention for ADHD," they continued, "it will also be important to address possible complementary effects of physical activity and existing treatment strategies ..." Which is a kind of phenomenal degree of reservation compared to the haste with which millions of kids have been introduced to amphetamines and other stimulants to address said ADHD. The number of prescriptions increased from 34.8 to 48.4 million between 2007 and 2011 alone. The pharmaceutical market around the disorder has grown to several billion dollars in recent years while school exercise initiatives have enjoyed no such spoils of entrepreneurialism. But, you know, once there is more research, it may potentially be advisable to consider possibly implementing more exercise opportunities for kids.

John Ratey, an associate professor of psychiatry at Harvard, suggests that people think of exercise as medication for ADHD. Even very light physical activity improves mood and cognitive performance by triggering the brain to release dopamine and serotonin, similar to the way that stimulant medications like Adderall do. In a 2012 TED talk, Ratey argued that physical exercise "is really for our brains." He likened it to taking "a little bit of Prozac and a little bit of Ritalin." As a rule, I say never trust anyone who has given a TED talk. But maybe in this case that's a constructive way to think about moving one's body. But not the inverse, where taking Ritalin counts as exercise. 

Just 26 minutes of daily physical activity for eight weeks significantly allayed ADHD symptoms in grade-school kids.
