



CURRICULUM CONNECTION

Monthly Newsletter providing cutting-edge educational resources to MPS educators

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“The object of education is to prepare the young to educate themselves throughout their lives.”

Robert M. Hutchins



Brain Rules for Educators

The book [Brain Rules](#), by Dr. John Medina, biologist lays out 12 scientific proven principals for how the brain works or doesn't work. Below is a summary of the rules AND the key principals for educators as well as a collection of excellent 3 minute videos giving a description of the rules:

Exercise boosts brain power. "To improve your thinking skills, move." John recommends a recess twice a day.



◆ [Video on how Exercise boost the Brain](#)

◆ **The human brain has evolved, too.** The human brain has developed an extraordinary ability to think symbolically, but "our ability to learn has deep roots in relationships." Feeling safe and understood is key to learning.

◆ **Every brain is wired differently.** "No two people's brains store the same information in the same way in the same place." John thinks we need a lot more "theory of mind" research to improve predictions of human behavior.

◆ [Video on Brain Wiring](#)



◆ **We don't pay attention to boring things.** "Audiences check out after 10 minutes, but you can keep grabbing them back by telling narratives or creating events rich in emotion." And "emotional arousal helps the brain learn."

◆ **Here's some bad news: "There is no such thing as multitasking."** John suggests a dedicated, unplugged period of concentrated effort.

◆ [Video on Attention](#)



◆ **Repeat to remember.** The folks at KIPP figured this one out: "The more elaborately we encode a memory during its initial moments, the stronger it will be." John adds, "The more the learner focuses on the meaning of the presented information, the more elaborately the encoding is processed." It's interesting that he recommends both deep understanding and repetition to build working memory.



Brain Breaks

Why are **Brain Breaks** valuable to incorporate in the classroom?



They help students be ready to learn and remember information better. Physical movement increases blood flow bringing more oxygen to the brain and leads to improved concentration. Brain breaks can be used to energize a group after lunch or relax and calm a class before a test or at the end of the day. Well-developed breaks can help students stretch, develop flexibility, improve coordination, and gain focus for the next lesson. The idea is to provide some moderate activity that gets the blood pumping so form and skill are not the focus of the activity. Brain breaks are de-

signed to be a quick infusion of physical activity without having to compromise valuable instruction time. Some activities incorporate core instructional concepts. Many Brain Break ideas can be found on the internet and the number of resources are growing rapidly, particularly those that incorporate instructional concepts. Following are some resources to begin infusing **Brain Breaks** into your classroom routine.

[Rachel Lynette's—Minds in Bloom— 3 Minute Brain Breaks](#)

A collection of 20 activities to use when students of all ages are feeling restless and need a break. Following are two ideas taken from the webpage. These do not require the use of technology.

5-4-3-2-1. In this simple game, students stand up and the teacher (or leader) has them do five different movements in descending order. For example the teacher would say: "Do five jumping jacks, spin around four times, hop on one foot threetimes, walk all the way around the classroom two times, give your neighbor one high-five (pausing in between each task for students to do it).

Trading Places Have students stand behind their pushed-in chairs. Call out a trait and everyone who has that trait must change places with someone else (students who do not have the trait stay where they are). Examples: "Everyone with curly hair." "Everyone who ate cereal for breakfast." "Everyone who is wearing stripes."

[K-5 Classroom Energizers—](#) A 58 page pdf packed full of ideas to incorporate physical movement with academic concepts.

[GoNoodle-](#) Video clips for students to follow along and imitate. The activities can range from high energy to calming yoga.

[TeachTrainLove— 20 Brain Break Clips to Fight the Fidget](#)

Learning through Brain-Based Games

Brain-based learning is a theory that contends that the brain is able to learn naturally. This theory is centered on the idea that learning involves conscious and unconscious processes, can involve different senses, involves the processing of whole and partial information and is inhibited when students are threatened. Listed below are some websites that follow the theory of brain-based learning by using games and inquiry.

[Zondle](#) uses key education and neuroscience research to use dynamic interactions to engage students and enhance learning.



MATH-PLAY.COM

[Math Play](#) has a huge collection of games suitable for elementary and middle grade students. Does include some upper content. Games are organized by grade level, content and game type.

iKnowthat.com

[Iknowthat](#) has a variety of games organized by grade level and subject. Suitable for PK to 6th grade.

[Glossopedia](#) is a kid's glossary / encyclopedia that allows students to discover wildlife and nature around the world.



Welcome to the new Glossopedia®!



[Questionaut](#) is an interesting inquiring journey. Help the aeronaut recover Vodnik's hat while answering questions in a charming and mysterious game. The game is a Point and Click adventure meant for English speaking children.

Inspire Learning With Office 365



By using Microsoft's Office 365 (O365) students and teachers are able to access and share educational materials anywhere, anytime, from any device. The O365 tools can also help facilitate new teaching methods and to help familiarize students with enterprise-grade apps and platforms before they join the world stage.

Through O365, we can integrate productivity and online collaboration into Mandan students' lives at a young age, equipping them with the skills they need to enter the workplace.

O365 has been available to teachers and students since 2004. It offers teachers another way to share their expertise and develop innovative learning methods via a collective solution. It has given educators and students new opportunities to connect with peers across the globe.



By now you are all aware that we've got O365 active and running for every employee and student in our district. Many of you have been into your portal and have been utilizing the features already. So what is immediately available to you and your students? The ability to collaborate. You have the ability to use OneDrive to share files and folders with any group or individual in the district.



Edutech does have many free training videos that they offer for O365 (right here <http://www.edutech.nodak.edu/office365>). However, we would still like to provide you with ongoing, face to face PD so that you can get any questions answered that you would have about its use in the classroom and how to utilize the apps with your students.



Starting February 12, we will be offering one hour technology question & answer sessions ***"trainings on the go"*** every Thursday of the month. These trainings will be held at the Brave Center Board Room from 4:00pm to 5:00pm. These one hour sessions will cover anything from technology hardware use to software and curricular items. We are gathering some great PD topics for the trainings on the go, so there will be more information to come on this as the schedule has been committed. *Our February 12th topic will cover O365 file and folder sharing.*

Brain Rules for Educators (Cont.)



- ◆ **Remember to repeat.** "The way to make long-term memory more reliable is to incorporate new information gradually and repeat it in timed intervals." Here is John's ideal high school schedule:
Lessons are divided into 25-minute modules, cyclically repeated throughout the day. Subject A is taught for 25 minutes, constituting first exposure. Ninety minutes later the 25-minute content of Subject A is repeated, and then a third time. All classes are segmented and interleaved in such a fashion. Because these repetition schedules slow down the amount of information capable of being addressed per unit of time, the school year is extended into the summer.

If that's too complicated (or politically charged), John suggests review periods every three or four days.

- ◇ [Video on Memory](#)



- ◆ **Sleep well, think well.** John suggests matching chronotypes to schedules; some teachers and students could do the early shift, some the late shift. He also thinks the "biological drive for an afternoon nap is universal."

- ◇ [Video on the Importance of Sleep](#)

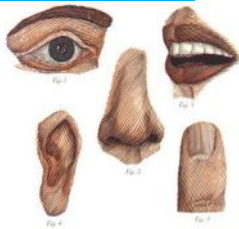


- ◆ **Stressed brains don't learn the same way.** "Individually, the worst kind of stress is the feeling that you have no control over the problem -- you are helpless." And, "Emotional stress has huge impacts across society, on children's ability to learn in school." John has been a big advocate of early learning and believes that education is a family affair and starts at birth.

- ◇ [Video on the Brain and Stress](#)

- ◆ **Simulate more of the senses.** "Our senses evolved to work together... which means that we learn best if we stimulate several senses at once." In addition to multisensory lessons, John suggests repetitions using other senses. Smell has a particular shortcut to memory.

- ◇ [Video on senses and the Brain](#)



- ◆ **Vision trumps all other senses.** "We learn and remember best through pictures, not through written or spoken words." John suggests more pictures and animations and fewer words.

- ◇ [Video on Vision and the Brain](#)

- ◆ **Male and female brains are different.** John suggests that there is some rationale for gender-specific classrooms and that at a minimum, we don't feed stereotypes.

- ◇ [Video on Gender Differences](#)

- ◆ **We are powerful and natural explorers.** "Babies are the model of how we learn -- not by passive reaction to the environment but by active testing through observation, hypothesis, experiment, and conclusion.

- ◇ [Video on Curiosity](#)

Parts Taken From Huffington Post (Posted: 2/3/2012)

* [Link for Brain Rules Posters](#)

