Belief
In order to be the most effective teachers, regardless of discipline, it is necessary to have a scientific understanding of how the brain learns and how it learns best.

Realization
When my lessons & interactions are founded in the principles of brain compatible learning principles everyone is more likely to experience success.

Results
When students have an understanding of how their brains change with new learning it serves to build grit/perseverance and gives them more power in the process.

Three programs for 3 different audiences – Can Stand Alone – But Are All Connected
Physical Education
Classroom Teachers
Before and After School Physical Activity Leaders

Physical Education From Fire to Inspire
Uses the teaching and learning of physical skills combined with images to create a versatile/visual scale or rubric capitalizing on the strength of visual memory to teach children how the brain changes with new learning simultaneously building a framework for connection and opportunities.

Time – Spaced Learning

Images & Visual Memory
Brain Rules – John Medina

Fire (verb: call forth)

The images of a neuron and puzzle piece represent the act of firing up the parts and pieces of something new. All new learning begins with firing up existing neurons connected to that learning. It’s the act of activating any networks that have already been stored in long-term memory and preparing them to connect to the new learning.

Neurons are the learning cells - inside my awesome brain. They begin to fire signals - when I start learn and train.

Each neuron has some dendrites – axon and synapse too. I have 100 billion - and surely so do you.
**Explore** - Create a multi-sensory exploration experience for the learners to fire neurons and wake up what already exists tapping into multiple pathways to memory. Get them thinking. If they can’t fire it, they won’t be able to wire in new learning. This is a great opportunity to drop in “think-abouts” that students will be using for conscious practice when “wiring” in the new stuff. *Think-Abouts* are the cues students will need to hold in working memory as they practice putting the parts and pieces of the skill together for smooth automatic performance. In the brain they will be creating a new network of neurons. Give them time to explore in self-space then guide the exploration with “can you?” questions. This is not about teaching the skill. It’s about giving learners time to explore and create. Too much time here and students will become bored. You want to give them just enough success and just enough challenge.

Can You Questions – Guided Exploration with questions stemming from movement concepts and principles.

**Success & Try Again** (John Hitchwa) – Partner challenge each other with a specific skill. Two hoops on one end are designated as “success” with two hoops on the other end designated as “try again.” At the end of the challenge partners give a High Five with a “Good Game,” go to their respective hoops and meet their new challenger. Lots of opportunities to build in mini-lessons on practicing sportsmanship.

**Wire (verb: provide with electrical circuits)**

The image of a person balancing 4 puzzle pieces represents the parts and pieces of the skill that need to be “wired” together for smooth consistent, successful performance. The second image is that of a synaptic gap being bridged by neurochemicals connecting neurons through practice and repetition to build a new or updated neural network. The learner must hold the “think-abouts” in working memory as he/she practices. The more the learner consciously practices, the more the pathway to memory is traveled creating increasingly improvements in performance. Learning is through trial and error with the key to success being the ability to seek and use feedback, making changes and improving performance.

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I have to use the “think-abouts” - when learning something new
A network starts a-growing - with conscious practice and review.

Connecting at synaptic gaps - practice helps my neurons wire.
And if I need some feedback - I know where to inquire.

I focus on the positive - my self-talk will be key.
I make it my intention - to be in charge of me.

Optimistic thinking - will help me make great gains.
I’ll take full advantage - of my neuroplastic brain.

Mistakes are just a tool I use - to get where I am going.
I have a huge capacity - for learning and for growing.

Frustration might come bubbling up – ’cause wiring can be tough.
Three big deep breaths to compose myself - will often be enough.

More instruction is required – of some feedback I’m in need.
So lucky to have helpful friends – who want me to succeed.

Pieces come together - things are going great.
More dendritic branching - will be this networks fate.

Use parts of the teaching/learning progression to build simple games that are fun, challenging & engaging and through practice & repetition begin “wiring” the skill together.

Skill Ladders (Example Scarf Juggle)
Skill Ladder – Circles – Individuals with more experience and skill on the outside of the circle. After rotating the inside partners both groups start on the bottom and see how high they can climb before the signal to stop. If you keep the time the same and let them know that you have done that you can use that information to show growth.

Quota
http://www.learningonthemove.org/lesson-components-ideas-activities-games--resources.html

Opportunities For Connection
**Learning Roles**

**Resiliency Ball**

**Mire (verb: cause to get stuck)**

The puzzle pieces are sliding together in this image and it is accompanied by an image of a basic neural network. Connections have been made and traveled enough for performance to become smooth and consistent. “Think-Abouts” have been dropped and smiles accompany the feelings that go hand in hand with working hard to achieve success. Time to Move It, Prove It & Check It according to the predetermined criteria for success.

I’ve now dropped the “think-about”s - things seem rather automatic.
You can see the “Body Look-Fors” - and I’m feeling quite ecstatic.

Success is quite consistent - I can prove it to a friend.
I won’t stop there for you will find - this process has no end.

To get here took persistence - I was as gritty as can be.
Now this neural network - is the newest part of me!

**Move It – Prove It – Check It** - Built in a system of self, peer-assessment & teacher assessment. This can become routine with students keeping a portfolio sheet with skills listed.

**Aspire (verb: have an ambitious plan or goal)**

**Inspire (verb: urge on or encourage)**

The image of the neural network here has more dendritic branching and shows neurons that have been coated with more myelin for smooth speedy access. This puzzle pieces are all put together and there is an additional color representing the addition of new goals and challenges the learner can undertake with the base skill having been established.

To set new goals and challenge myself - is exactly what I need.
As I continue on my journey - myelin coats for increased speed.

Dendrites keep on branching - as I build on this new skill.
There are so many choices - that will give my brain a thrill!

If I see a classmate struggle - when he’s just starting out.
I can be a helpful teacher - of that I have no doubt.
I watch and offer feedback - to my friends who are in need.
I’m a source of inspiration - as I help them to succeed!

If there is time...

**Nana’s Knit Balls** (I’ve had these for 30 years) If you know of any knitters in the community I have always found that there area usually some older people who love the opportunity to be helpful and need to be needed. This link gives you all the information. [http://www.learningonthemove.org/physical-education-equipment-ideas.html](http://www.learningonthemove.org/physical-education-equipment-ideas.html)

Barrel Ball – A great middle school activity I created and used with my students. They loved it! This was part of an MVPA Unit. The PDF is on the bottom of the page. [http://www.learningonthemove.org/mvpa-challenge-2017.html](http://www.learningonthemove.org/mvpa-challenge-2017.html)

There are lots of ways to use rhyme for increased memory and recall. A memory circle is one that also serves to gather the class, build unity, and get attention in very time efficient way. There are examples of memory circles I have used here. [http://www.learningonthemove.org/the-memory-circle.html](http://www.learningonthemove.org/the-memory-circle.html)

And all the content for elementary physical education (and some middle) in the form of poems and call & returns included in this resource. [https://www.amazon.com/Poems-Brain-Teaching-Physical-Education/dp/1726663698/ref=sr_1_2?ie=UTF8&qid=1541001278&sr=8-2&keywords=poems+for+physical+education+liz+giles-brown](https://www.amazon.com/Poems-Brain-Teaching-Physical-Education/dp/1726663698/ref=sr_1_2?ie=UTF8&qid=1541001278&sr=8-2&keywords=poems+for+physical+education+liz+giles-brown)

Yours for healthy and active children,

Liz