14th Annual UCF Literacy Symposium ~

Brain Based Research and the Physiology of Learning

Presentation & Power Point By:
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Objectives:

- Participants will gain a deeper understanding of how brain based research strategies can be utilized with all students to increase learning.

- Participants will analyze the correlation between relationships and affective learning/motivation.

- Participants will discover simple ways to accommodate and differentiate instruction so that all students find success.
Presentation Agenda

- Brain Research & Learning
  - Brain Anatomy
  - Brain Principles
  - Relationships/Motivation
  - The major means by which we learn
    - Auditory Processing
    - Visual Processing
Essential Question
Why Brain Research & Learning?
Essential Question

How does brain function influence learning?
Twins ... Tell the Story
Brain Anatomy & Learning

New Born Brain

Brain with Experiences
Brain Anatomy & Learning Con’t
Basic Brain Learning Principles

- Complex, adaptive, and dynamic system
- The brain is social
- Meaning occurs through patterning
- Complex learning is enhanced by challenge and inhibited by threat

“Everything comes together in a moment”
~ Die Gestalt
Essential Ingredients for Learning

- **Attention**
  - Naturally engage the learner
  - Knowledge enters through existing neurons

- **Emotion**
  - Strengthens learning
  - Concomitant exposure
  - Critical to patterning

“Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it’s the only thing that ever has.”
~ Margaret Mead
Essential Question

How do relationships affect learning & motivation?
**Relationships ~ Learning & Motivation**

- Know your clientele’s status to initially connect
  - Part time
  - Fulltime
  - Overtime

- Know how to further connect with your clientele
  - Their triumphs or tribulations
  - Their aspirations or their inspirations
  - How they can make a difference

“I don’t believe you have to be better than everybody else. I believe you have to be better than you ever thought you could be.”

~ Ken Venturi
Essential Question

How does auditory processing affect learning?
Auditory Processing

- Broca’s Area ~ Speech & Language Production
  - Productive Language
  - Fluency issues

- Wernicke’s Area ~ Language Comprehension
  - Receptive Language
  - Word caller
  - Multi-step directions are problematic
    - ADD/ADHD
    - Music
Essential Question

How do the mechanics of the eye impact learning?
Makenna ~ My Daughter
Eye Structure

- Sclera
- Choroid
- Cornea
- Retina
- Fovea
- Pupil
- Lens
- Iris
- Ciliary body
- Optic nerve
A Reading Test

**DO NOT READ** the words, say aloud the **COLOR** of each word.

- **YELLOW**
- **BLUE**
- **ORANGE**
- **BLACK**
- **RED**
- **GREEN**
- **PURPLE**
- **YELLOW**
- **RED**
- **BLACK**
- **BLUE**
- **ORANGE**
- **GREEN**
- **BLACK**
- **BLUE**
- **RED**
- **PURPLE**
- **GREEN**
- **BLUE**
- **ORANGE**
Visual Processing

- Visual Acuity
  - Spelling and the Reading Connection

- Convergence
  - Esophoria
  - Exophoria

- Directionality/Laterality
  - Reversals
  - VMI
    - Spaceman, Writing, Fine Motor
Esophoria

Janet ran to help Tom

Directionality
Visual Processing Continued

- Binocular Coordination
  - Highlights Magazine
  - Mazes
  - Word Searches

- Visualization
  - To see things in the mind’s eye

The future depends on what we do in the present.
~ Mahatma Gandhi
A Final Thoughts...
Final Thought.....

“Anything is possible”

~ Nina Kuhn

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“Don’t let challenges yield a life of Excuses and explanations. Instead, let those events create a life of Enthusiasm and exclamations!!!”

~ Nina Kuhn
ILLNESS ROBS SCHOOL OF BELOVED LEADER

By SABRINA MATHERS
SENTINEL STAFF-WRITER

OAKLAND — In 17 months, Nina Kuhn has gone from walking with a slight limp to using a power wheelchair. She can no longer button a blouse, play with her 10-year-old daughter, Moderna, or bathe unassisted. She breathes at only 22 percent of her lung capacity and experiences excruciating muscle spasms. Most nights, she averages just a few hours of sleep, and she eats life.

But today will be one of her hardest days yet. It is the day Kuhn bids farewell to the place she loves most, Oakland Avenue Charter School, and to hundreds of students and teachers who revered her as their friend and principal.

Kuhn, a 35-year-old single mother, has Lou Gehrig’s disease, amyotrophic lateral sclerosis (ALS). Her name is familiar to many in the community.

Please see PRINCIPAL, B7

Illness ‘has forced me to get a life’

Students at Oakland Avenue Charter School walk Wednesday with their principal, Nina Kuhn, who is leaving the school today because she suffers from Lou Gehrig’s disease.

Faith, friends sustain ill woman

Clermont resident struck with Gehrig’s disease

Pete Skiba
Staff Writer

Clermont resident Nina Kuhn sits at her home with her dog, Gracie, recently. Kuhn, a former principal, was diagnosed with Lou Gehrig’s disease, and has relied on faith to guide her through her ordeal.

Clermont resident Nina Kuhn sits at her home in the Regency Hills development. People don’t realize she is a dryer and the school is her dream. Teachers bought her home near Arick. They come by and at holidays it is like one family at this house for those who can’t go home.

She (Kuhn) is still looking out for the school, school name and friend Nan Baxie