

University
of Portland



SCHOOL OF
EDUCATION

TEACHER LEADERSHIP NETWORK

presents:



A NEUROEDUCATIONAL LENS ON HOW
ACADEMICS AFFECT BEHAVIOR:
STRATEGIES THAT WORK!

with **Dr. Ellyn Arwood**

Tuesday, April 12th, 2022 from 6-7:30pm

Supportive Presenters: Examples and Chat Room Questions

Dr. Aaron Green-Mitchell

Dr. Emily Jaskowiak

Ms. Faith Kempf

Dr. Chris Merideth

Dr. Bonnie Robb (also is in class)



What is behavior?

Acts in a series—hand moves up and arm straightens out and hand opens fingers, hand moves toward pencil, fingers touch pencil, fingers close, hand raises up

Series of acts are named with sound words—reaches, picks up, hands, walks, jumps, sits down, stays on task, etc.

Person who sees the acts and names the acts interprets the acts according to their beliefs and cultural experiences—picking up the pencil is okay but stealing the pencil is not okay

The interpretation of behavior...

Meaning of behavior is based on beliefs of the person assigning meaning---two major ways we look at the value of behavior:

1) behavior is separate from academics...behavior must be under “control” to do academics

teach behavior---behavior problem, more than one place where unacceptable behavior interferes with education

teach academics as separate trained acts—e.g., multiplication tables, sounds-letters to form words for reading and writing

2) the meaning of behavior is the result of how well the learner is processing the meaning of the environment, so academics and behavior are intertwined

Interpretation affects methods...

Behavior is separate from academics and is taught separately

Model, imitate, practice, generalize, transfer (acts or academics are taught this way) behavior separate from the modeled, imitated, practiced, generalized, transferred academic skills

Behavior is communication and everything including academics affects behavior

Disliked behavior indicates that the environment is not meaningful enough to support wanted behavior, so learner needs more meaningful input to raise level of thinking underlying behavior

What are the assumptions underlying these methods?

All behavior communicates—
Interpret the behavior as okay or not okay and assign a corresponding meaning...but the meaning assigned is affected by the adult's beliefs

For example, a fifth-grade child doing the same acts was receiving marks for unacceptable behavior while others in the same class doing the same behaviors were okay. Johnny received a mark for being “out of his seat” standing by his desk doing his work on a class project while others walked around the room. Johnny received a mark for talking while he was talking to others in his pod who were not responding to him while others who were talking with other students did not receive marks. This interpretation actually isolated and marginalized Johnny even more than his “unacceptable behavior.”

What made Johnny's behavior unacceptable? Was his behavior considered a problem because he also had academic issues?

Behavior...

All behavior is okay, we interpret behavior within the context as acceptable or not....we decide if the context supports the behavior or not.

We can “control” the context for animals like dogs, cats, whales, pigeons and program their behavior...and we use the rules for “training” these animals based on what we program or control

Programming behavior...

Must be able to observe the behavior we want, break it down into acts that can be copied (e.g., sounds, jump rope), we teach the parts one at a time through a model-imitation-reward system (rewards are paired with correct copy or imitation of acts to increase the likelihood of the behavior increasing or happening again—reinforcement)

- we have lots of reward systems

- we have lots of multi-tiered systems (PBIS-Positive Behavior Intervention Systems; RTI) of modifying the context, setting the reward systems, assessing the behavior, etc.

- effective measurements (FBA) of what we model, practice, reward, reinforce, generalize through transfer, add the next “behavior”

When we use these systems of teaching behavior (separate from academics) through these additive systems of imitation and reward...

The environment or context is most meaningful to the person who planned the programming, the adult (not student centered)

The additive parts are observable while the ToM attempts to consider what can't be observed such as emotions, feelings etc. (ToM is adult based)

The learner may not be able to make meaning from the adult's teaching of the parts (all learners have unique backgrounds and therefore unique ability to make brain connections)

TAKE AWAY: Academics are not meaningful. Behavior is not meaningful so rewards must be used!!!!!!

Programming behavior doesn't work so well for humans...

Cannot program for more than 1, maybe up to 5, in a group—ever see whales in groups of 17-35 being programmed at one time?

Human brain responsible for acts of behavior process the assignment of meaning and then the brain changes so we can't practice a behavior (as a human) without shutting down the brain's engagement (e.g., Bookheimer)

All rewards (external pairings) are also punishers which increase the aggressiveness of behavior over time

Since human behavior is assigned sound words to the acts that make up behavior, then the language, cognitive level of individuals determines whether the assigned meaning is processed

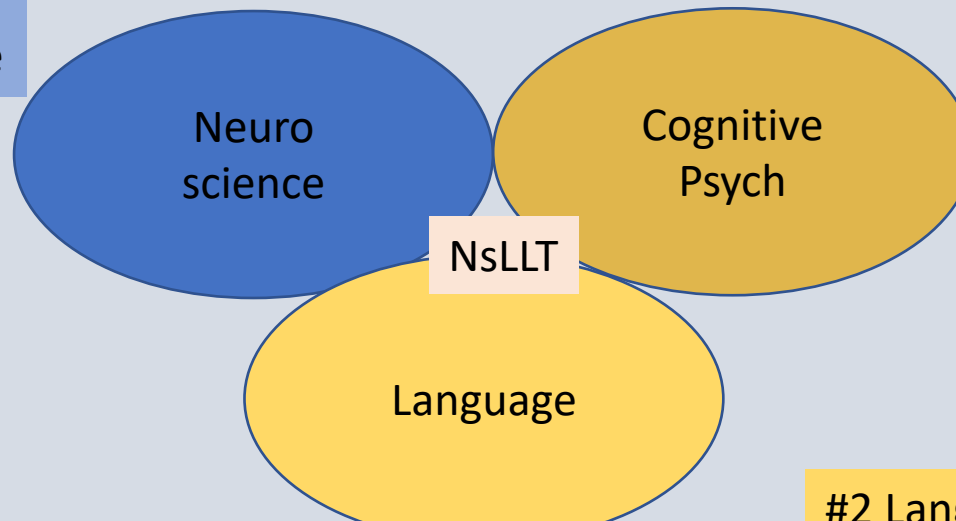
Levels of thinking: Cognition

Sensori-Motor (0-2)	Pre-operational (3-7)	Concrete (7-11)	Formal (11+)
I am a part of a picture Memory is limited to sensory effects—sounds, smells, etc. Limited, if any language-verbal thinking	I am in my own picture The world revolves around me—my classroom, my ball If I don't like something, it is your fault (blame)	I share the picture with others Rule-governed Societal laws Marketplace	Ethics Principles Mores

Let's create a neuroeducational model from the literature that deals with behavior from multiple sources of literature research...

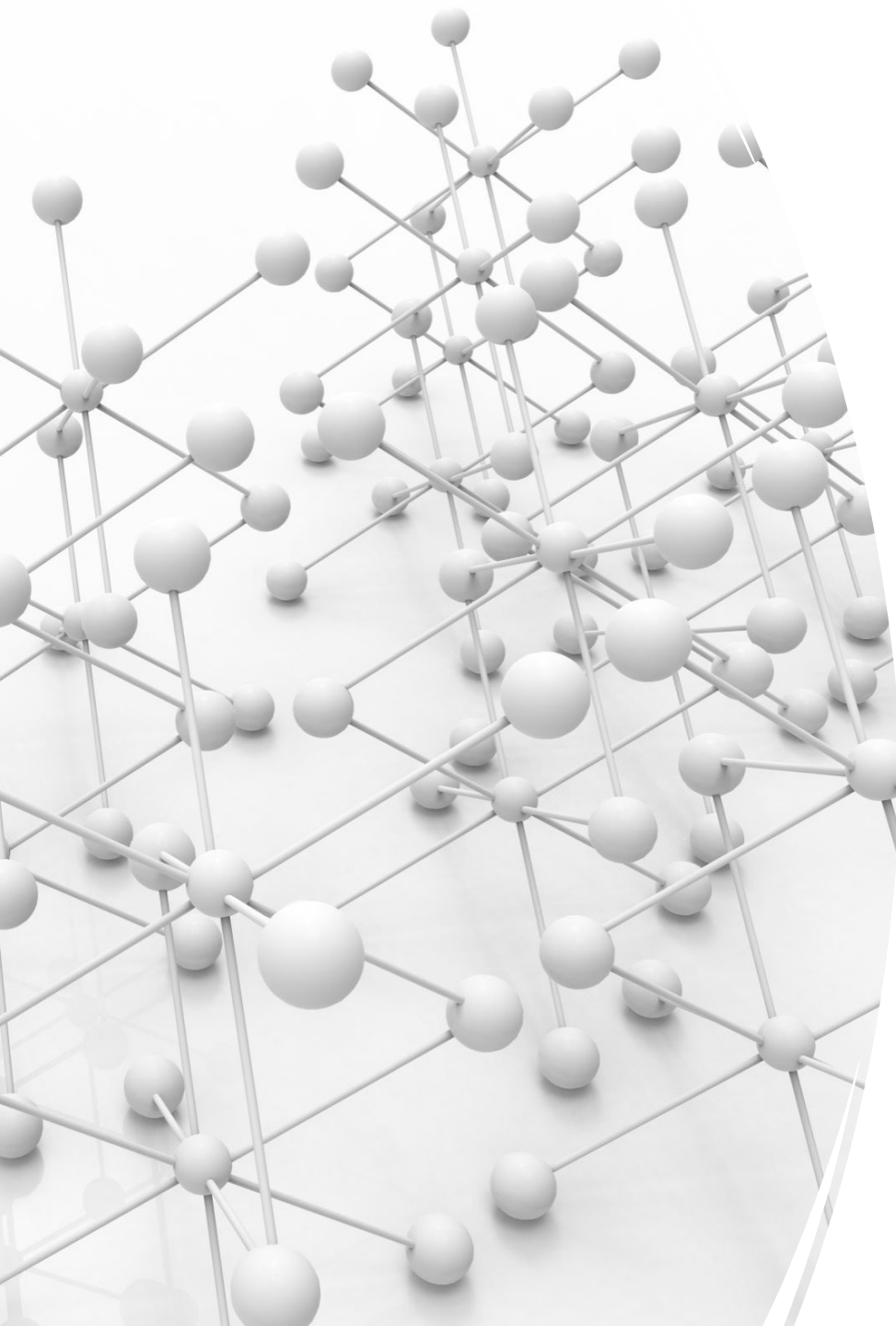
#3 Neuroscience tells us that the brain is responsible for all behavior and therefore we must know how the brain works to learn how to behave

#1 Cognitive psych is one set of behavioral data based on observations and adult interpretations....



Learning is a neurological high, so we don't need external rewards but you must include these if the academics are not meaningful enough for the learner

#2 Language literature helps us understand the cause and effect between learning and behavior based on semantics, pragmatics, and semiotics



How do humans learn to behave based on the environment being meaningful to the learner?

Neuro-semantic Language Learning Theory (NsLLT)

semantic features of distance senses (reflexive movement, no thinking)

semantic perceptual processing of the pathways of messages from receptors to brain (recognition of input, not thinking)

images of neuro-semantic circuits that are parallel for inhibition, synchrony, and maximum integration (specific to human thinking)

neuro-semantic networks across and within hemispheres (language naming of the acts as behaviors)

Social Appropriateness of the Behavior

We assign the meaning (neurosemantic processing by learner)—



Anti-Social

Name-calling
Bullying
Taking others' X
Abuse of control
Control others' who
Criminally insane

Pro-Social

Protect self, nurture self,
support self
Nurture, protect, support
others
Social competence: Initiate and
maintain healthy relationships

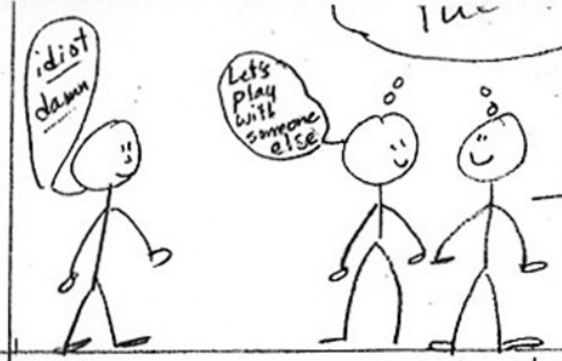
Anti-social to
pro-social



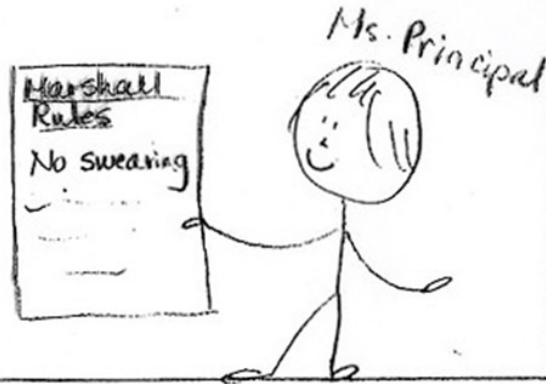
Mrs. Larfield and Dylan are shocked because they do not like to hear swear words or words that hurt other people.



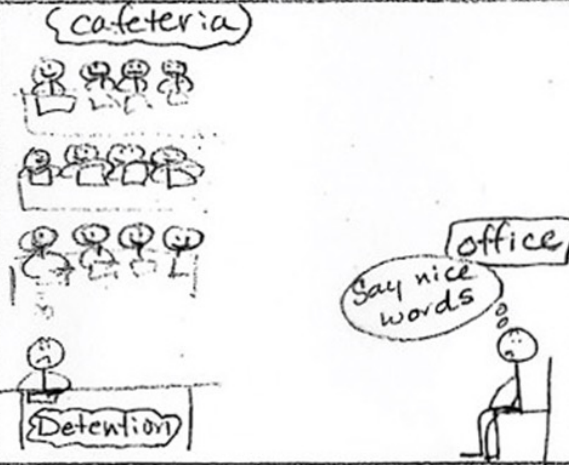
Words like 'stupid' or 'idiot' make other people feel bad.



When we say words that hurt others, people don't want to be our friend.



Marshall has a rule that kids will not say swear words at school.



If you say words that hurt others or say swear words you will stay inside for recess or sit alone at lunch because your teacher wants you to think about what words to use when you're upset.

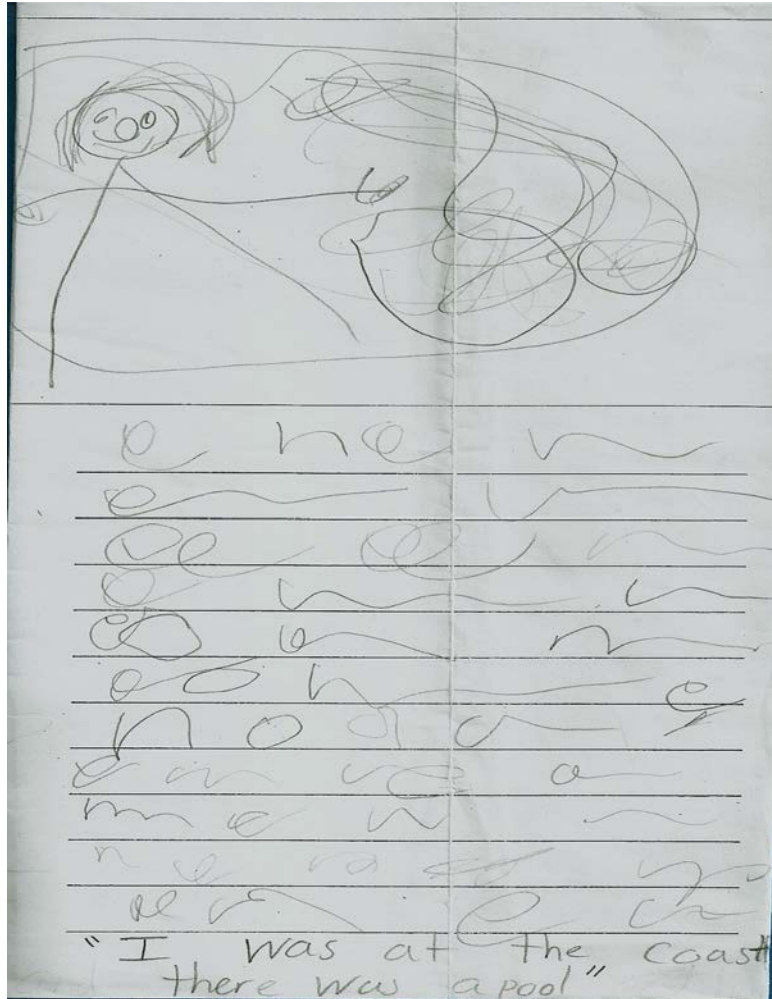


So, if you are upset let's say, "I'm upset" "I'm mad because..." and tell why.

Lyn Larfield

Student Writing Samples - Behavior Classroom

Student Sample Fall



Student Sample Spring

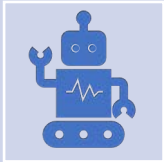


We learned
about the butterfly
life cycle. It starts
with the egg then
it goes to a caterpillar
then it goes to a
chrysalis and last
a butterfly.
Ms. Spencer

brought caterpillars
in a cup. They turned
into a chrysalis
and we put them in
the butterfly home.
They came out as a
butterfly and puffed
up their wings. They
flew in the home
and ate nectar from
Oranges and flowers.
We walked to the
atrium with the
bunny. We let the
butterfly go. It flew
over the roof. I was
happy to set them
free.

Psychosocial ways to parent or help others learn to behave that can be used in the classroom— *Language of RESPECT* by Arwood and Young

Authoritarian approach to assigned meaning (anti-social)



Control others (deficit based; fix it mentality)



Try to stop unwanted behavior: Reward, punish based on behavior that is programable as taught separate from what is meaningful to the learner—overtime, increases anti-social, aggressive behavior

Authoritative approach to assigned meaning (pro-social)

Empower others (strength based; increase thinking)

Assign pro-social meaning: authors, experts, give credits, give appreciation, give recognition, historians, scientists, mathematicians, put the learner in their own pictures (e.g., cartoons, etc.)



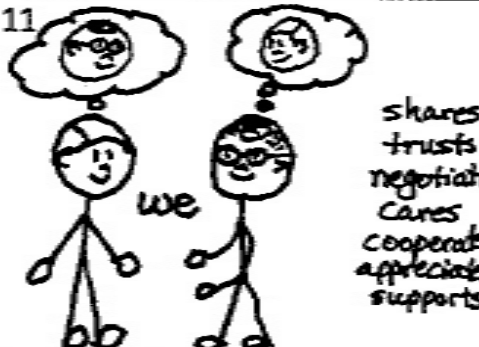

Social context is the classroom, the school, the community

Don't isolate or control the environment—instead, increase the meaning of the environment by sharing the community (our classroom; class meetings; I-stories that learners draw and write about; cartoons that show the rules, expectations, etc.; set up a curriculum that begins with the preoperational level for all grades and then scaffold the meaning up to the concrete to formal (NvES)

Goal: Raise the level of thinking to raise the level of socially acceptable behavior determined by dominant culture, values, expectations

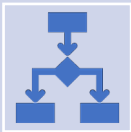
Change the context to meet the needs of the learner's strengths---otherwise, we have people socially functioning lower than CA

Students learn to behave based on giving them knowledge about who they are as social beings within a context that provides opportunities for learning to behave--

<p>A child aged 0-2, is dependent upon the care of an adult while learning about self.</p>	<p>A 3-7 year-old child is dependent upon others while acquiring rules for behavior, and is mainly concerned with own feelings, wants and needs.</p>	<p>An 8-11 year-old child is aware that his actions affect other people so he chooses to follow the rules that allow him to function successfully and independently.</p>	<p>An individual age 11 and older has thinking that is shaped by his values, beliefs, principles, morals, ethics, passions, etc.</p>
<p>0-2</p> 	<p>3-7</p> 	<p>8-11</p> 	<p>11+</p> 
<p>When a 0-2 year old gets upset, he will throw, tear, yell, slam doors, cry, stomp, hit, kick, bite, fall down, flail arms, pinch, push, scream, slap, spit, etc.</p>	<p>An upset 3-7 year-old calls people names; blames others for his problems; feels victimized; and makes up excuses to justify his behaviors, actions and reactions. When exceptionally upset, he displays the behavior of a younger child.</p>	<p>An 8-11 year old child who gets upset forgets the rules and displays the behavior of a younger child.</p>	<p>When a person age 11 and older gets upset he falls back to displaying the behavior of a younger child.</p>

Behavior communicates--

External



Behaviors we can see, such as walking, running, throwing, spitting, cursing, slamming doors, etc.



Always okay but where and when determines acceptability

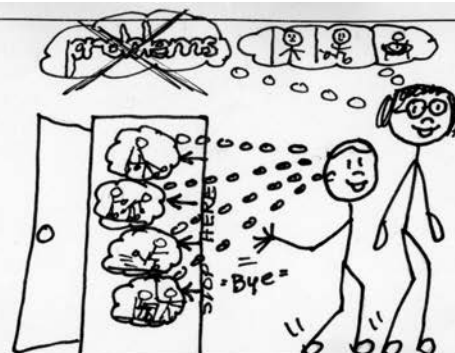
Internal

Thoughts that we can't see—feelings are sensory, emotions are language-based and require the highest level of learning

These can be at any conceptual level and pro-social or anti-social thoughts



After school, Rocko and his mom go to the APRICOT clinic so that Rocko can work with Mabel.



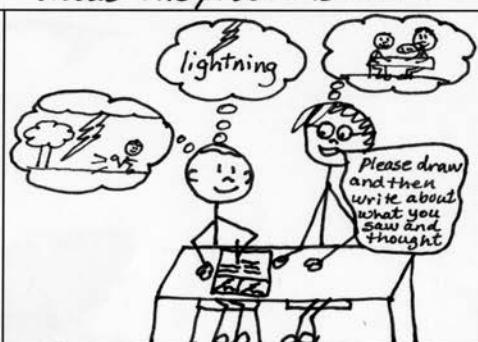
In order to do his work with Mabel, Rocko will "leave his problems" at the door; that is, he will pause or shrink his mental pictures about his problems and...



then fill his head with pictures of what he will look like while thinking, drawing and writing with Mabel.



Rocko sits up straight in his chair, moves his left hand under the words while his right hand holds the paper that is positioned on his left side.



Rocko thinks about what he sees on the page so that he can draw and write his ideas.



While Rocko works on school or clinic work, his job (responsibility) is to be a learner by giving his "best efforts" to the tasks he is given.

This example of assigning language to this student helps deal with behavior as well as social issues related to his anger, motivation, focus, and overall mental health

Some methods...take aways

- Make visual the behavior you see so the learner can change what they do
 - Cartoon
 - Draw thinking, write (movement access to thinking)
 - Assign meaning with rich language that is authoritative, not authoritarian
 - Increase context and ways to access so activities are more meaningful (student-based tasks match learners' ways of thinking)
 - Increase thinking so that learners are empowered...choices help give mental meta-cognition; mental health improves with autonomy, self-determination
 - I-stories

Reference

- Arwood, E.; Brown, M.; and Kaulitz, C. (2015) *Pro-social language: A way to think about behavior*. APRICOT, Inc.