A HORSE OF A DIFFERENT COLOR: Strategies to Support Students with Autism focusing on motivation.

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And

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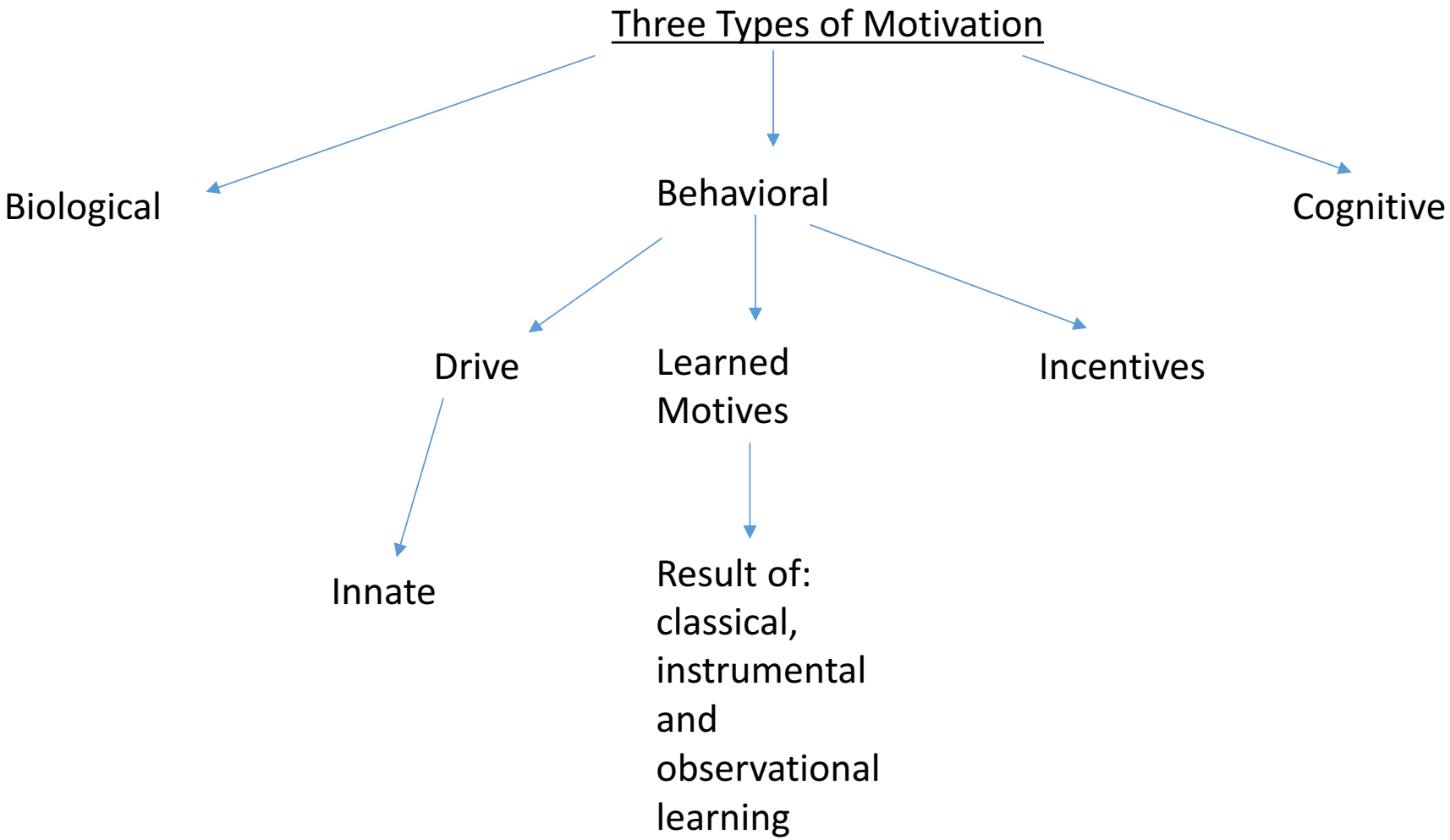
WHICH STEP HAVE YOU REACHED TODAY ?

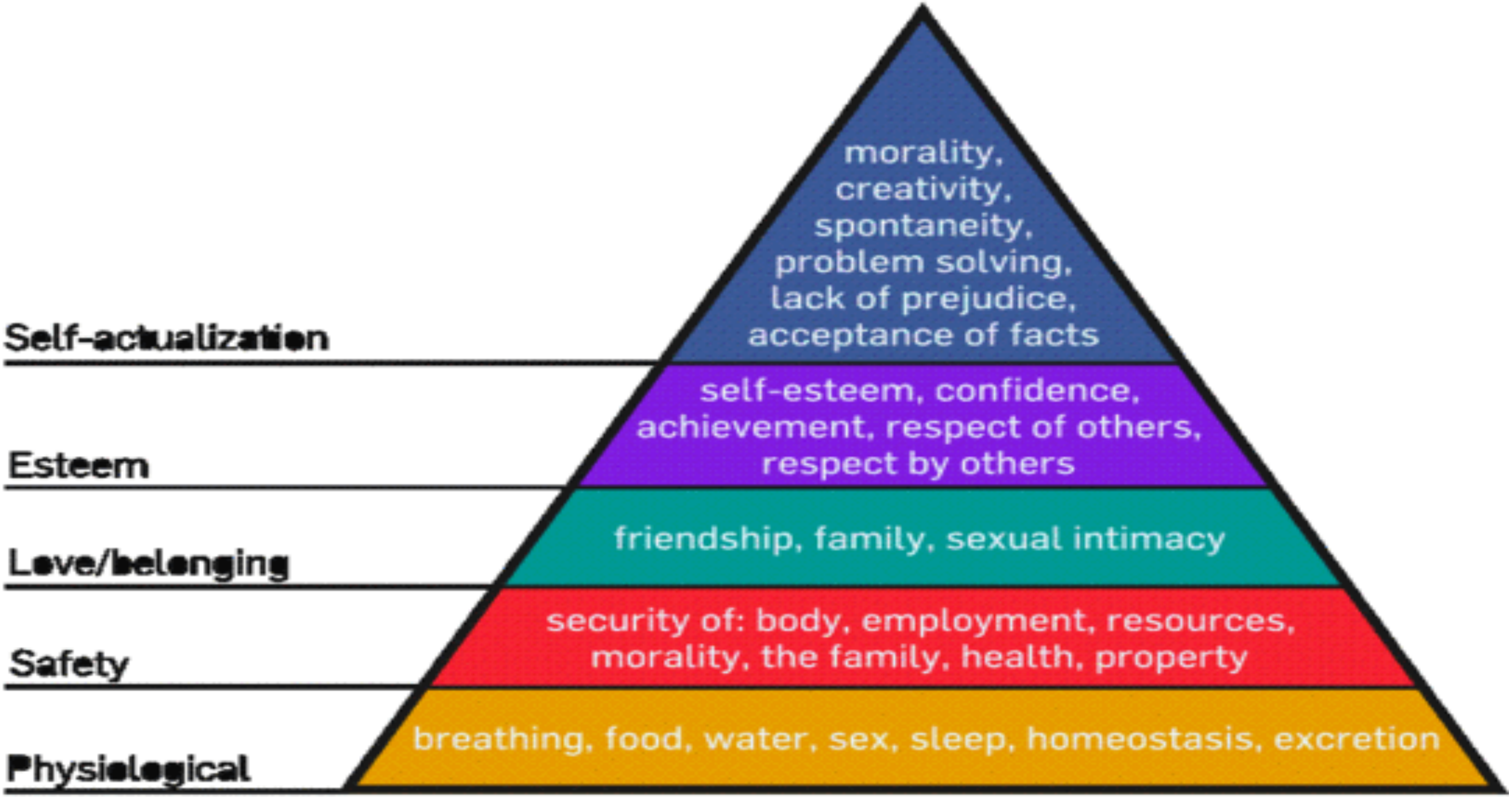
What Motivates You?

- Minimize physical pain
- Maximize pleasure
- Fulfill needs (eating, drinking)
- Obtain a desired object, hobby, goal, state of being, ideal
- Less-apparent reasons such as altruism, selfishness, morality, or avoiding mortality

Motivation is a:

- Cause
- Process and
- Effect
- It’s the energy for action

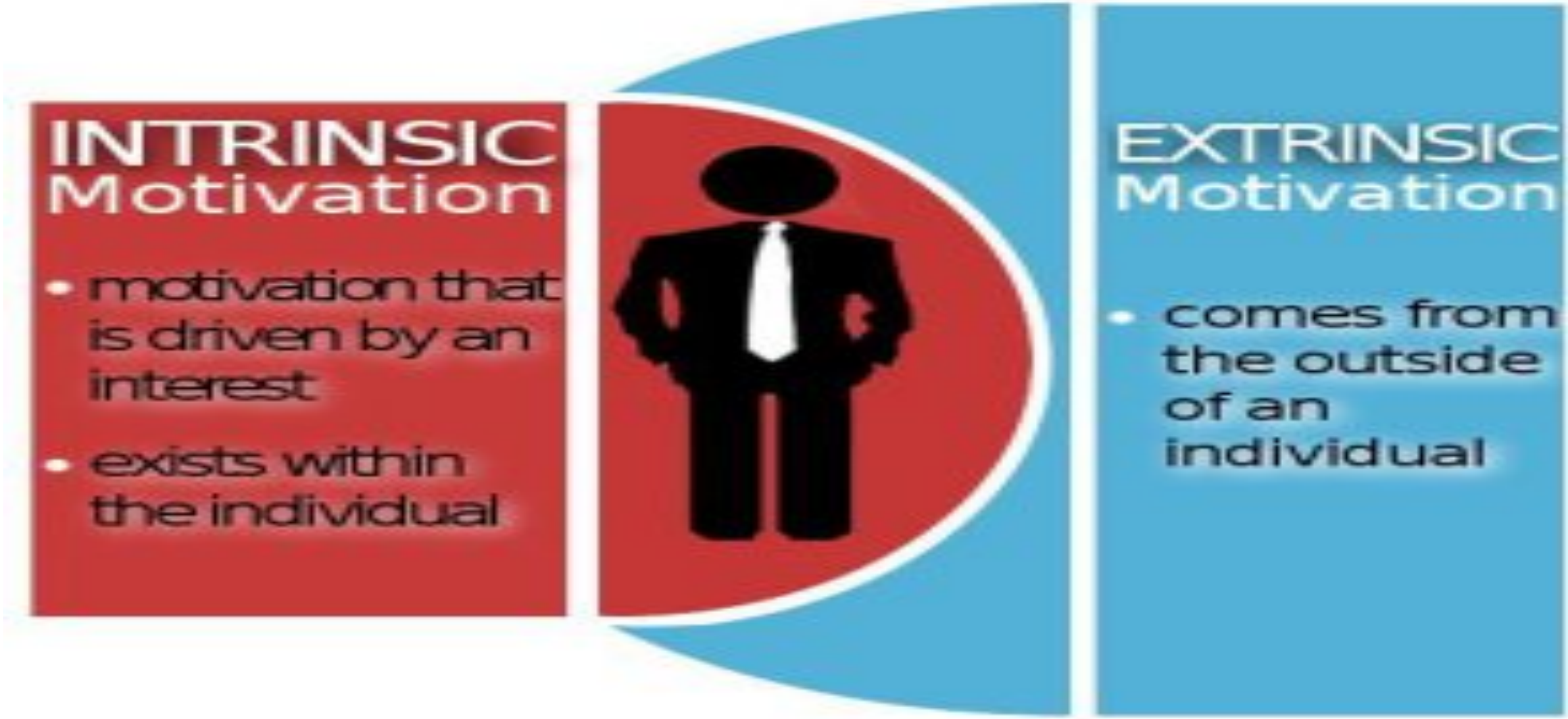

Three Types of Motivation
Biological
Behavioral
Cognitive
Drive
Learned Motives
Incentives
Innate
Result of: classical, instrumental and observational learning


morality, creativity, spontaneity, problem solving, lack of prejudice, acceptance of facts
Self-actualization
self-esteem, confidence, achievement, respect of others, respect by others
Esteem
friendship, family, sexual intimacy
Love/belonging
security of: body, employment, resources, morality, the family, health, property
Safety
breathing, food, water, sex, sleep, homeostasis, excretion
Physiological

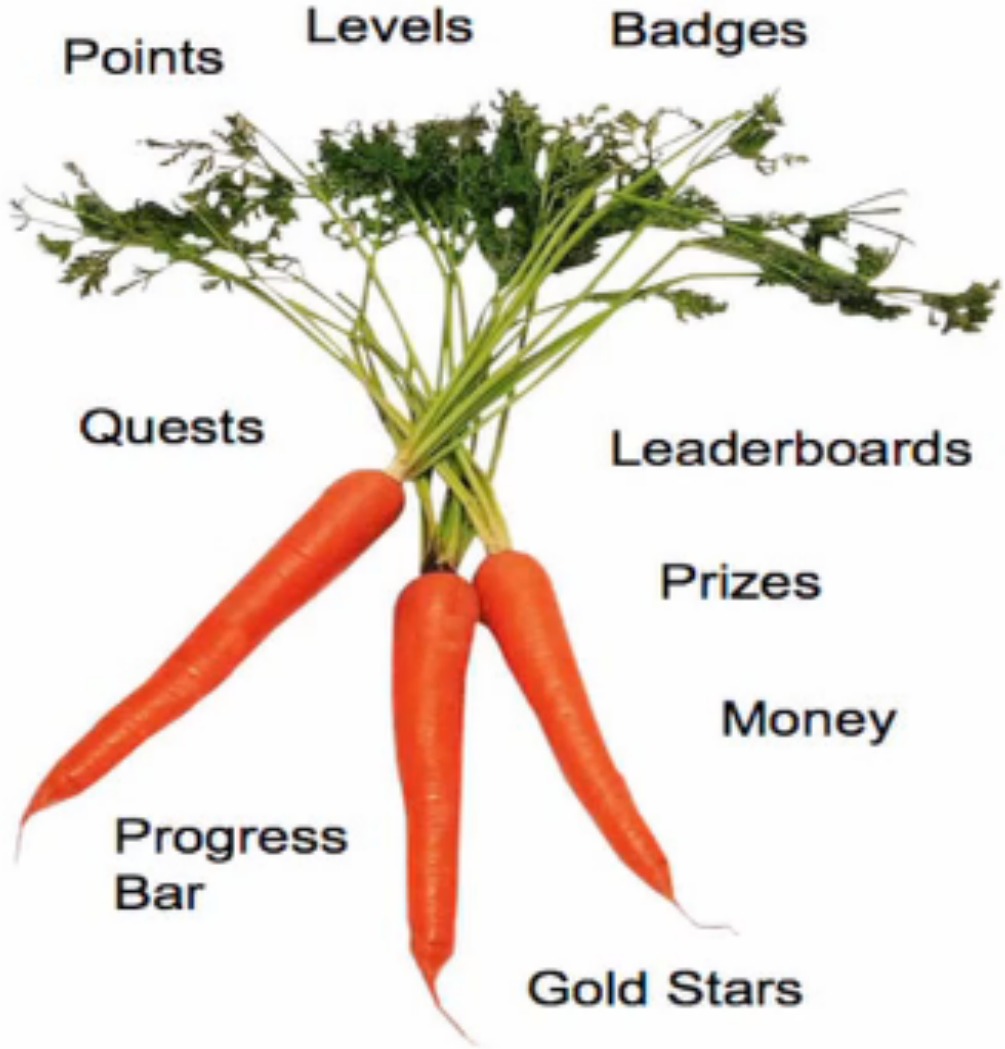
Other issues that have been demonstrated to affect motivation:

- Emotions
- Executive function
- Grit
- Impulsivity
- Time of the day
- Earlier experiences that day

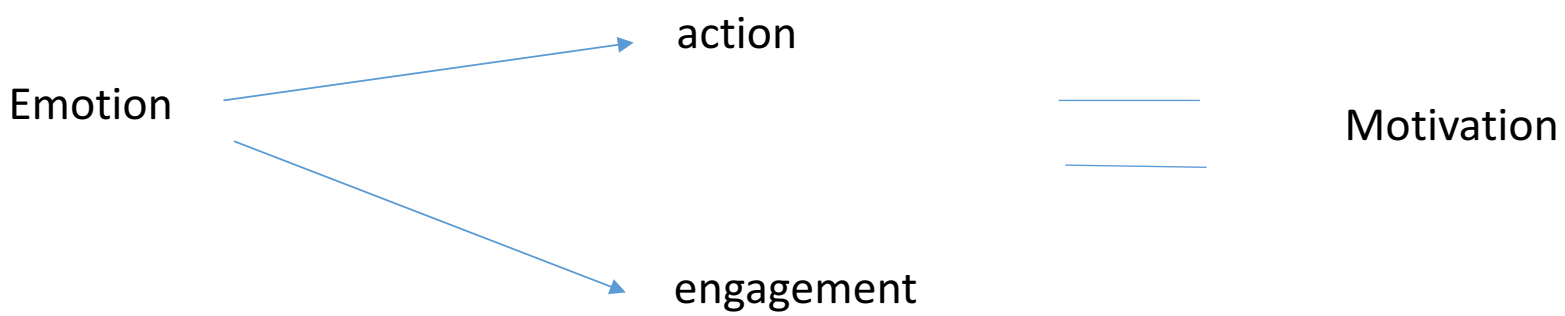
Intrinsic vs extrinsic motivation



Intrinsic value > Extrinsic Rewards



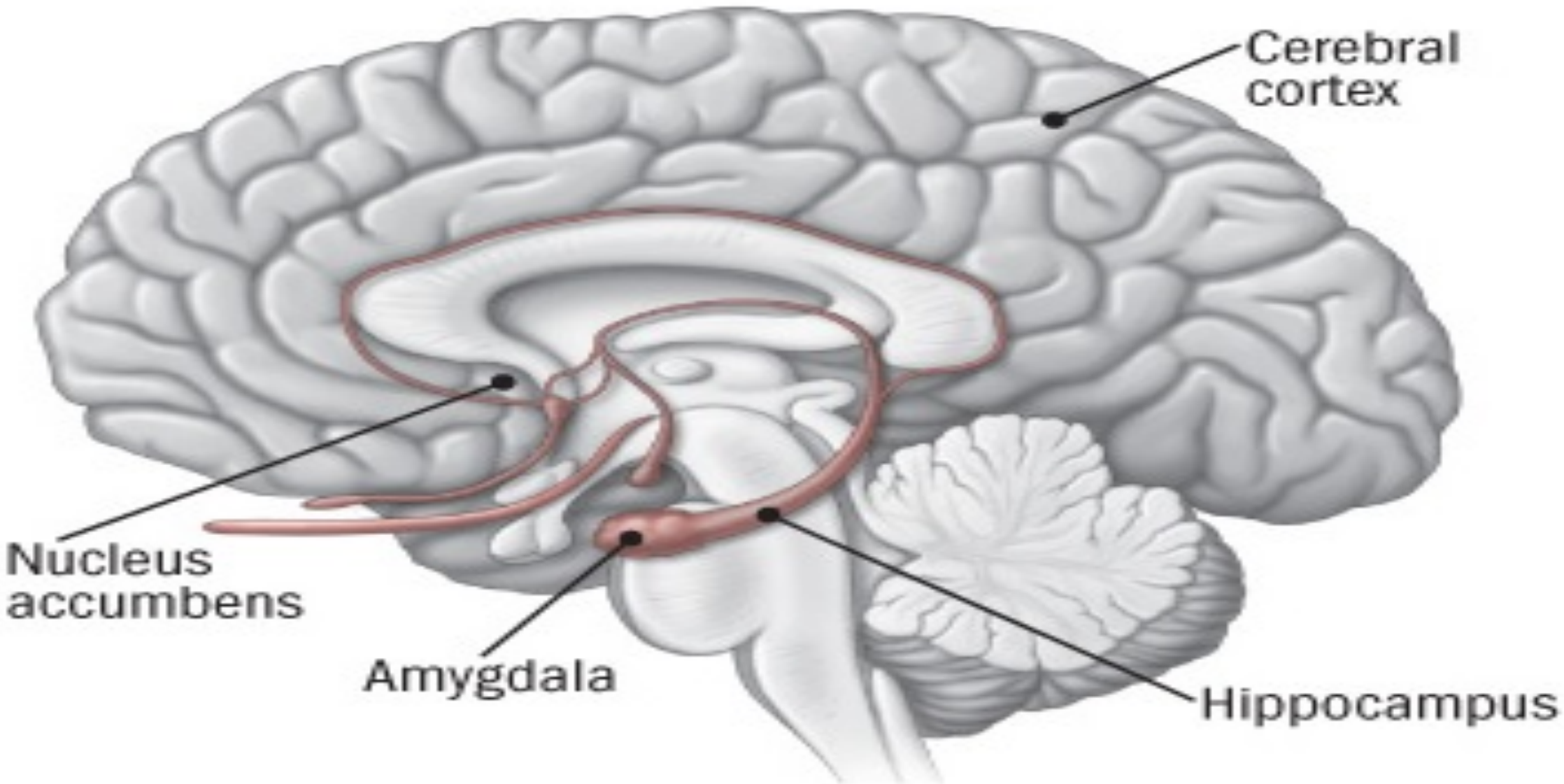
Amy Jo Kim (Gaming)



Reinforcement in the Brain—“The Reward System”

- The neurobiological structure of “The Reward System” in the brain

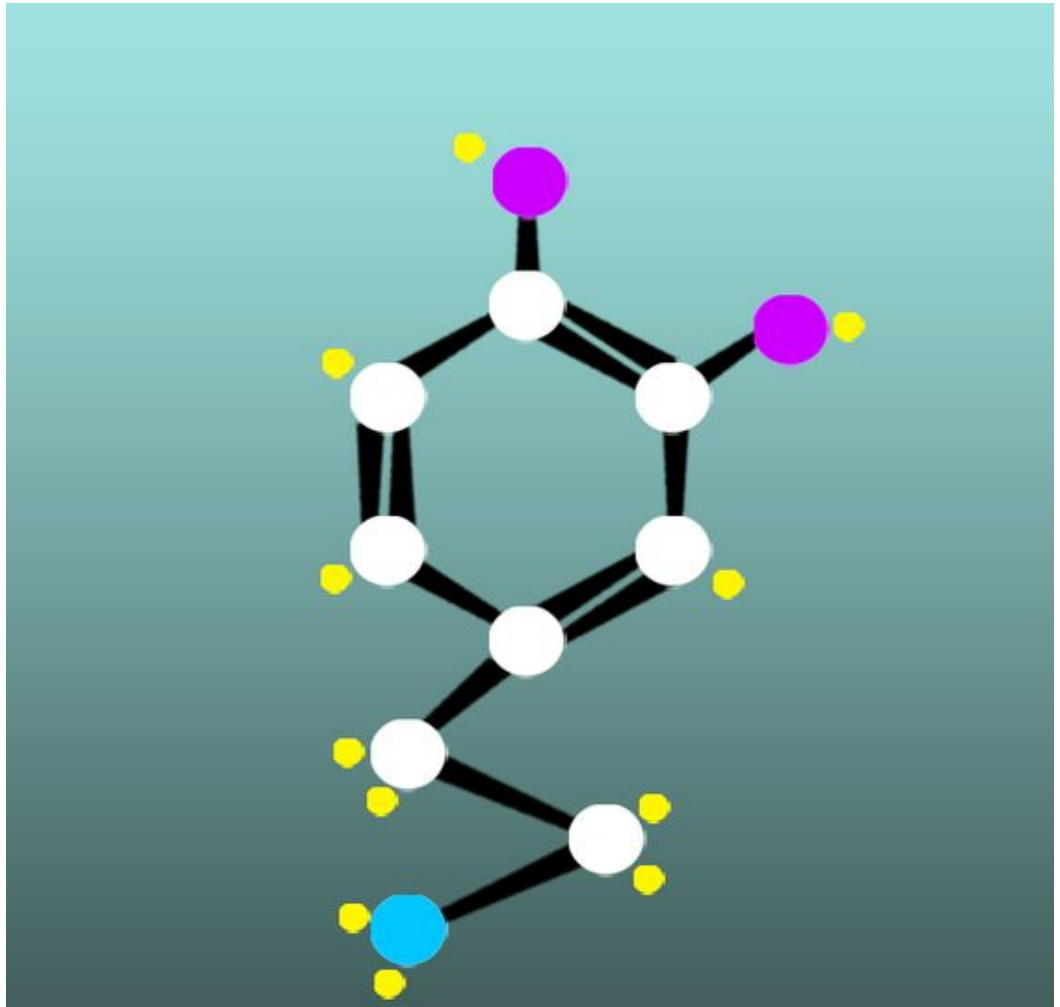
Brain's Reward System



The neurobiological chemicals in “The Reward System”: Dopamine

Dopamine—it makes you feel good

- Its actually a prediction drug
- It confirms the effects discovered in operant conditioning



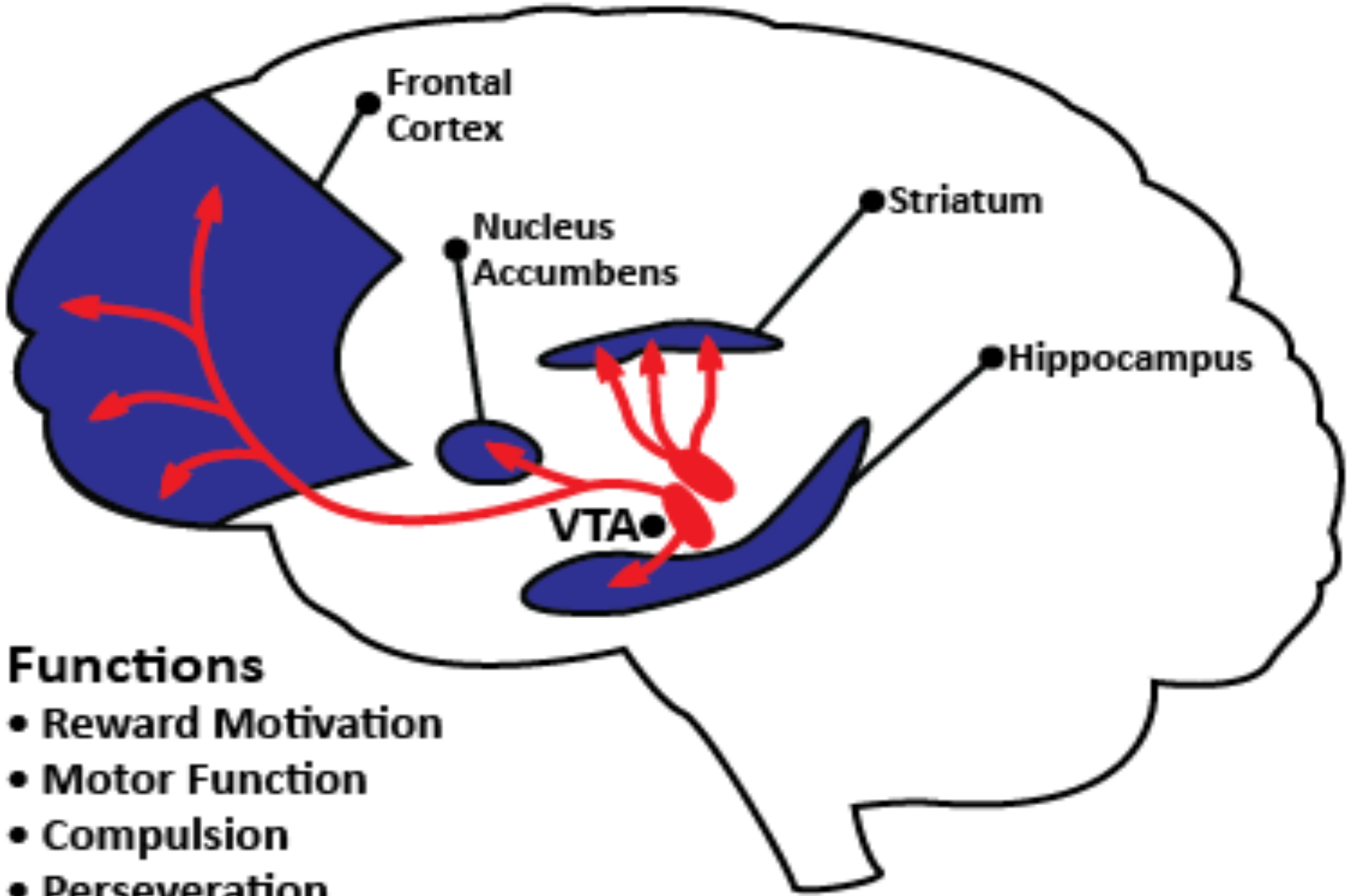
HAPPINESS

$C_8H_{11}NO_2$

DOPAMINE

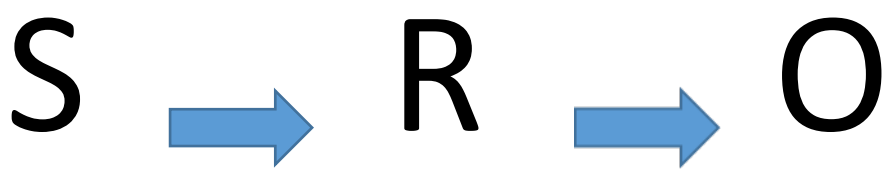
A compound that affects brain processes that control emotional response and ability to experience pleasure, desire or motivation.

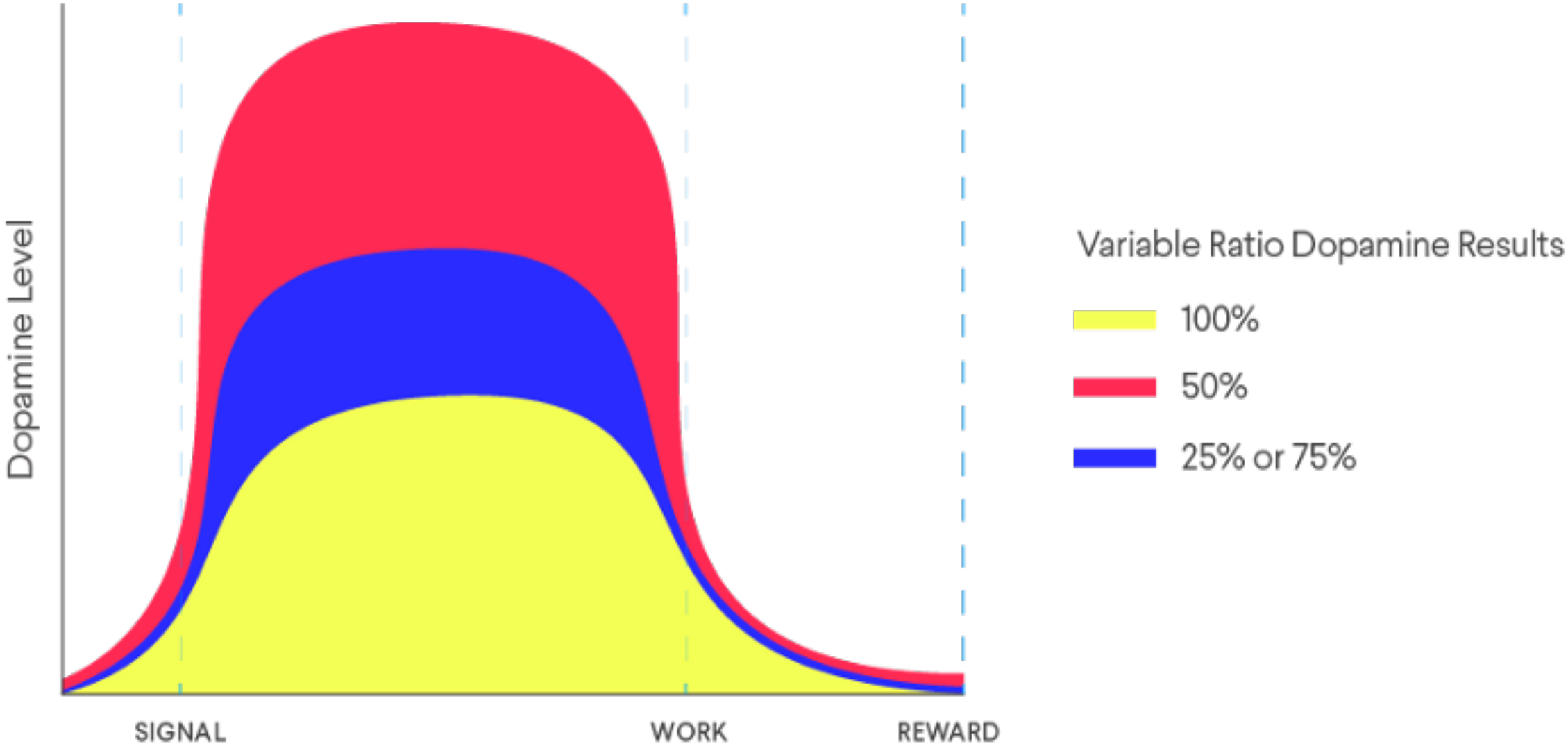
Dopamine Pathways



Functions

- Reward Motivation
- Motor Function
- Compulsion
- Perseveration


S
R
O


Dopamine Level
SIGNAL
WORK
REWARD
Variable Ratio Dopamine Results
100%
50%
25% or 75%

But, for people dx with ASD

Motivation is a challenge

- Lack of motivation leads to:
  - Challenging behavior
  - Crying
  - Noncompliance
  - Inattention
  - Fidgeting
  - Escape behaviors
  - Lethargy
  - ***Decreased mastery over time***

How do we usually motivate students with ASD to learn?

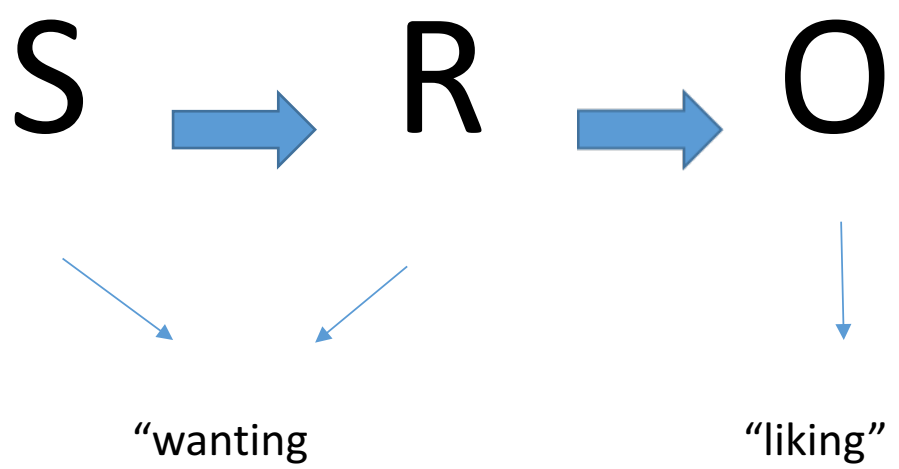
- Praise/encouragement
- Contingent reinforcement

Reinforcement: “It doesn’t work.” Or “It stopped working”

- Possible limitations of reinforcement
  - Reinforcement/rewards only work for about half of the ASD population (Helt, 2008; Vismara & Rogers, 2010)
  - Some factors associated with the effectiveness of reinforcement/reward
    - IQ
    - Age
    - Reward processing
    - Sleep denervation
    - Inattentiveness
    - Level of physical activity
    - Meds
    - Anxiety
    - Depression
    - Boredom
    - Social relatedness-belonging and friendship

“The Reward System” in Students with ASD

- The don’t want but they like


S
R
O
“wanting
“liking”

“The Reward System” in Students who are diagnosed with ASD

Differences in neuroanatomy in the brain

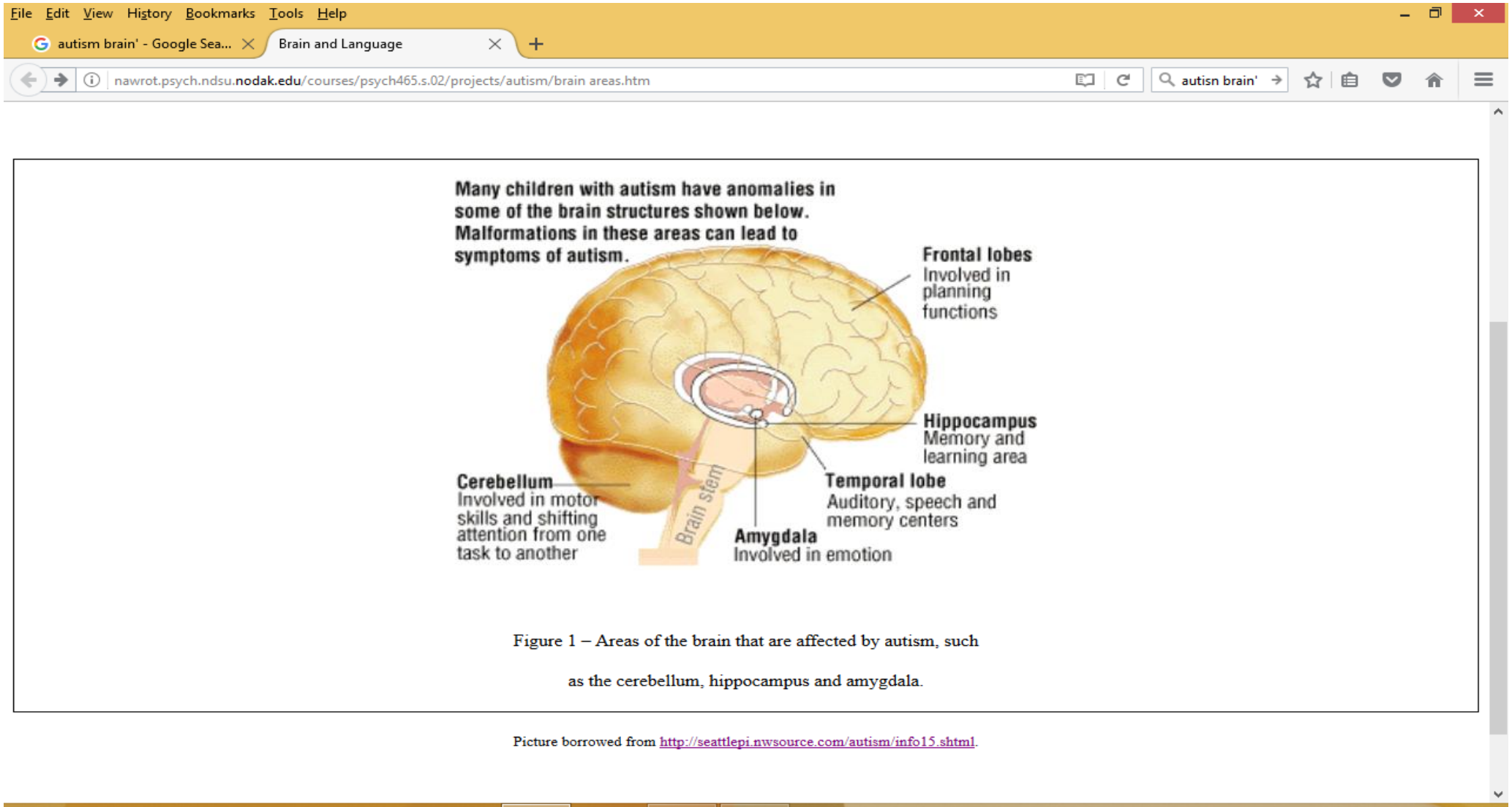
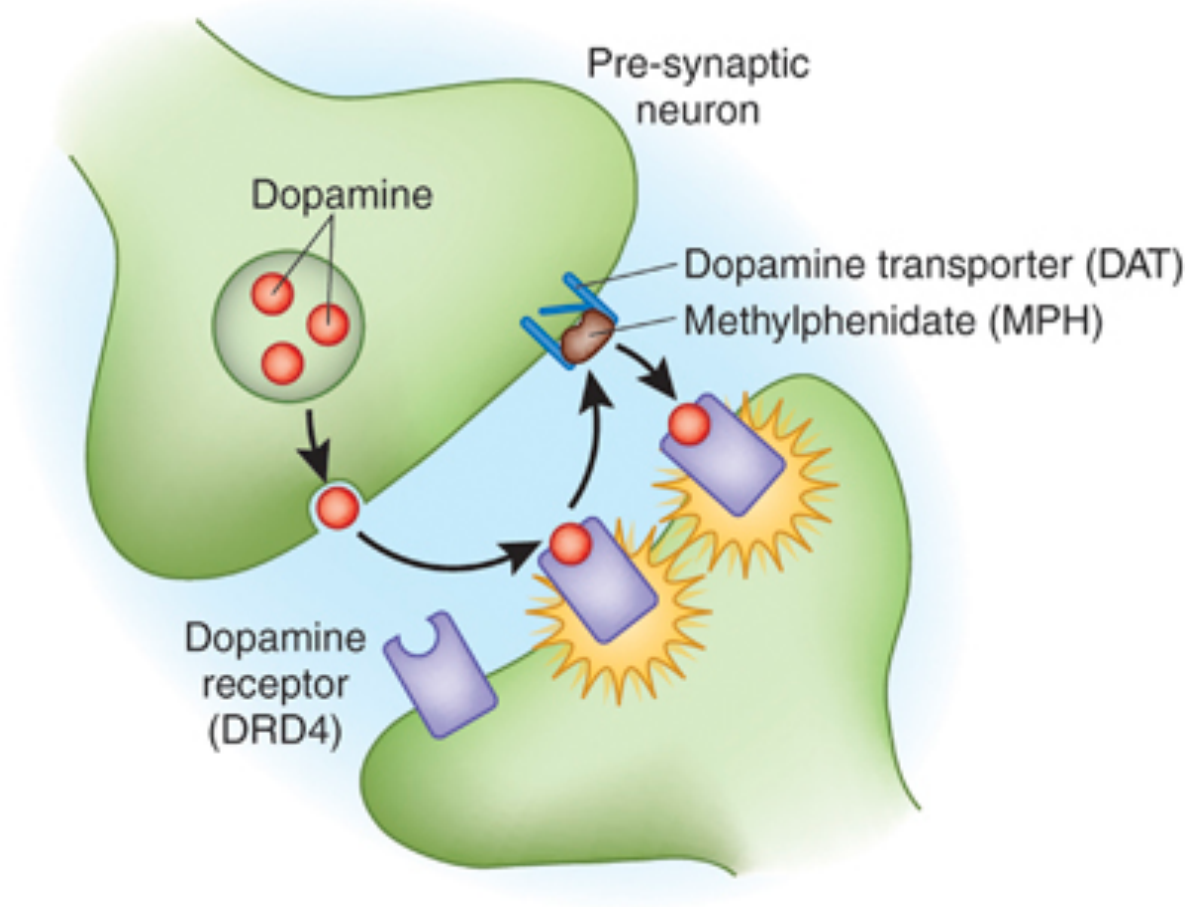


Figure 1 – Areas of the brain that are affected by autism, such as the cerebellum, hippocampus and amygdala.

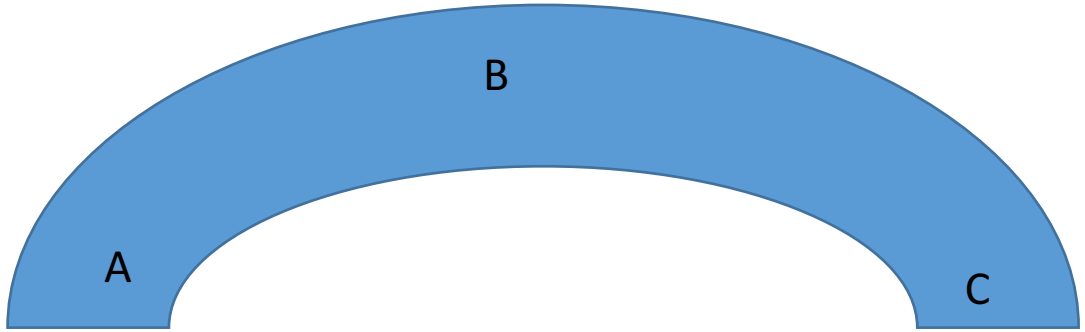
Picture borrowed from http://seattlepi.nwsource.com/autism/info15.shtml.

Differences in the neurochemistry

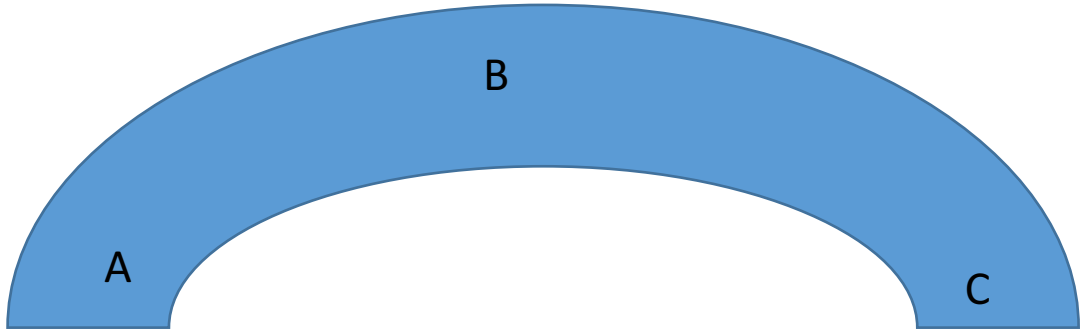


Given these challenges, what can we do?

A simple diagram of learning

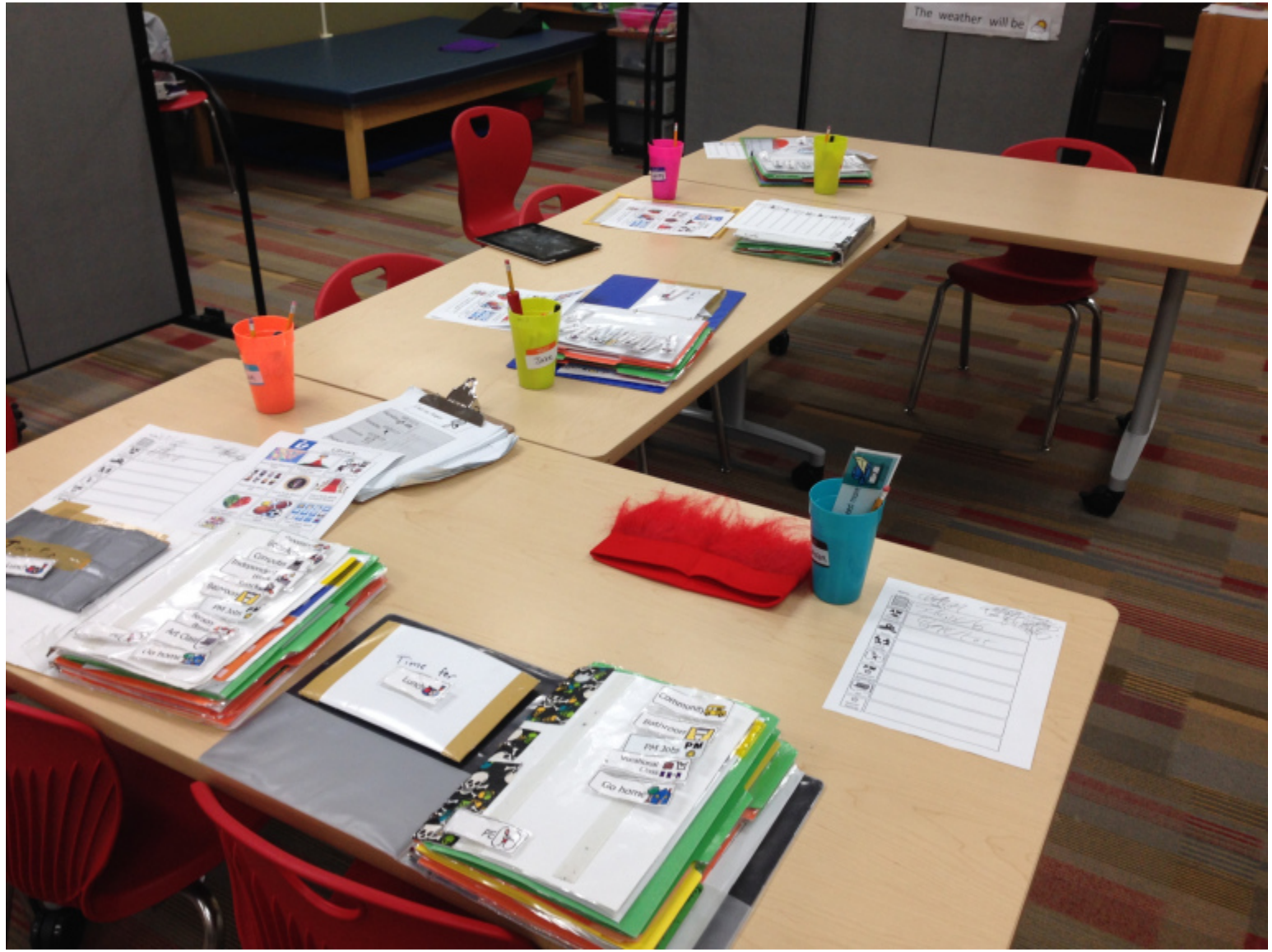


Antecedent-based motivation strategies



Antecedent strategies for motivation

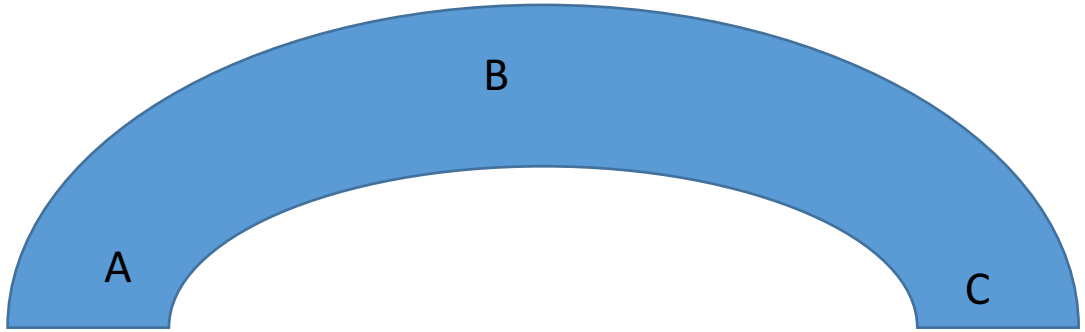
- Environmental arrangement
- Non-contingent reinforcement (NCR involves giving the student access to a reinforcer frequently enough that they are no longer motivated to exhibit disruptive behavior to obtain that same reinforcer.)
- Using child interest
- Single task/varied task
- Pivotal response training (it is play based and child initiated. Its goals include the development of communication, language and positive social behaviors and relief from disruptive self-stimulatory behavior)
- Behavioral momentum
- Choice making
- Error-free learning


The weather will be
Time for Lunch
Go home


2
4
5
3


Count and Match
4
3
5
Count and Match
1
6
2

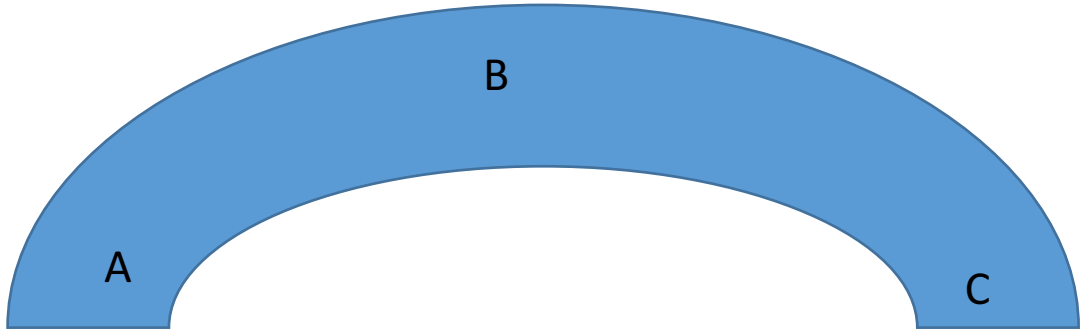
Task-based motivation strategies



Making the task motivating

- Using student interests
- Using mediums the student likes to use (i.e., technology)
- Checking to see you are only teaching one thing
- Using mastered skills to reach new ones
- Making the task visual
- Making the task clear (task analysis)
- Balancing the demands of the tasks throughout the day

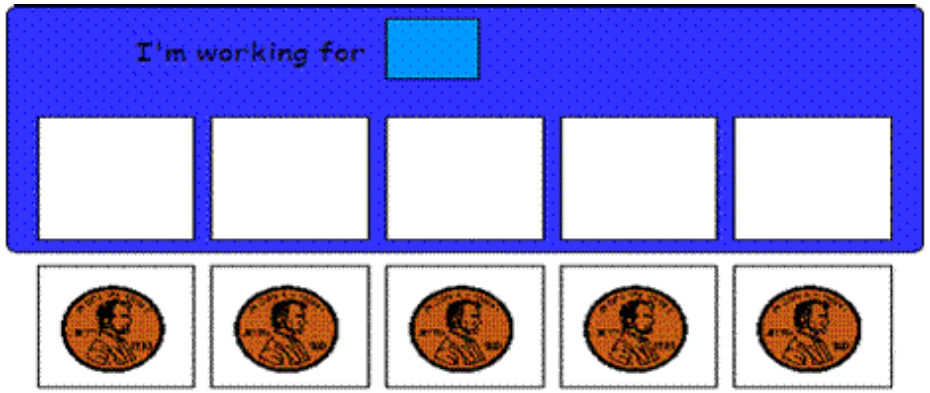
Consequence-based motivation strategies

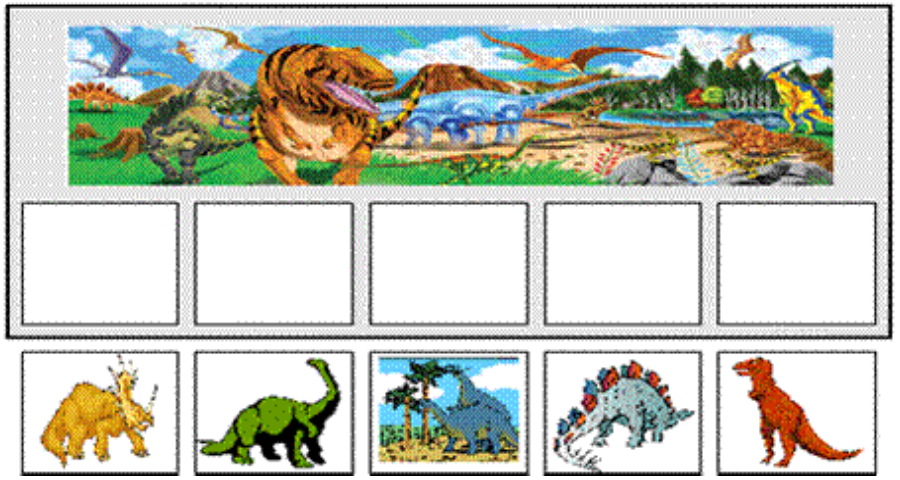


When we concentrate on the consequence for motivations, we use:

- Reinforcement
- positive reinforcement
- negative reinforcement
- Schedules of Reinforcement
- “Penny Boards”

Penny board examples





Principles of Reinforcement

- Motivating Operations
- Matching Law
- Consistent and contingent
- Differentiated from preference
- Idiosyncratic or preservative behaviors ok

Using Reinforcement

- Child must be able to access reinforcement in order for it to be effective
- May reinforce attempts
- Watch for “teasing” or “nagging”
- Vary the reinforcer Pair with social
- Thin schedule
- Matching Law
- Non-contingent reinforcement

BUT….

- Ruined by rewards
  - Praise vs feedback
- Going from concrete to abstract
- Going from acquisition to fluency

So…

- Emotional vocabulary/literacy
- Emotional regulation
- Self monitoring
- Self regulation
- Self Determination

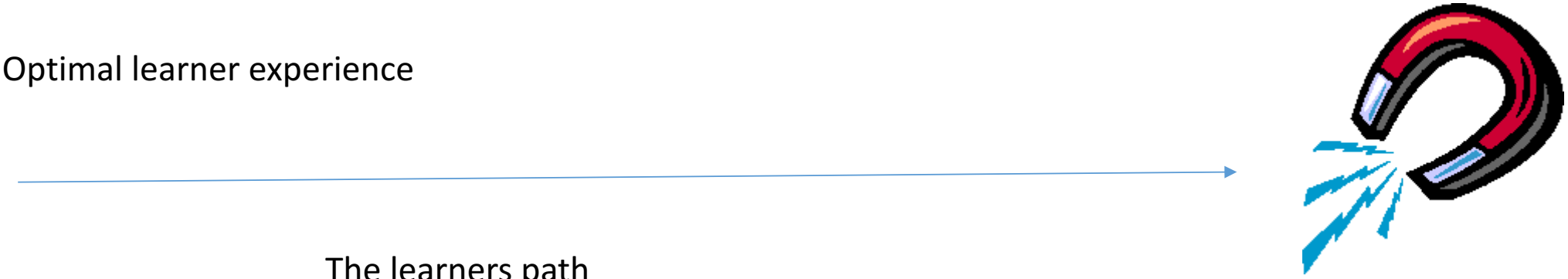
Don't forget

Demotivators

- Fear
- Wrong goal
- Lack of clarity about desired behavior
- Lack of autonomy
- Lack of challenge
- Loneliness
- Not knowing what to do next
- Powerless
- Low self esteem
- Lack of emotional resilience
- Lack of respect
- Ideas not heard
- No opportunity for growth
- *choice making

Kathy Sierra

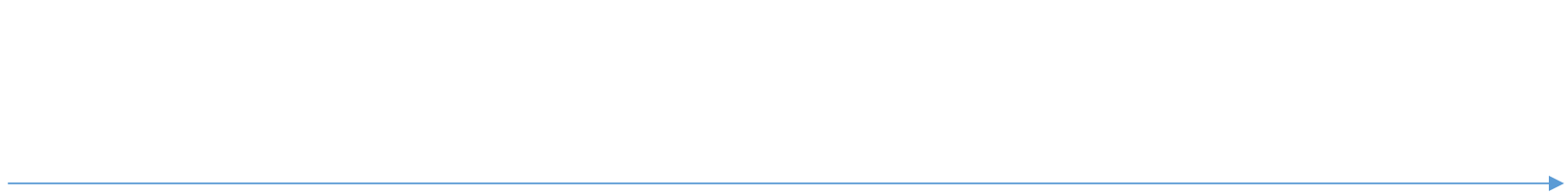
Optimal learner experience



The learners path

motivation

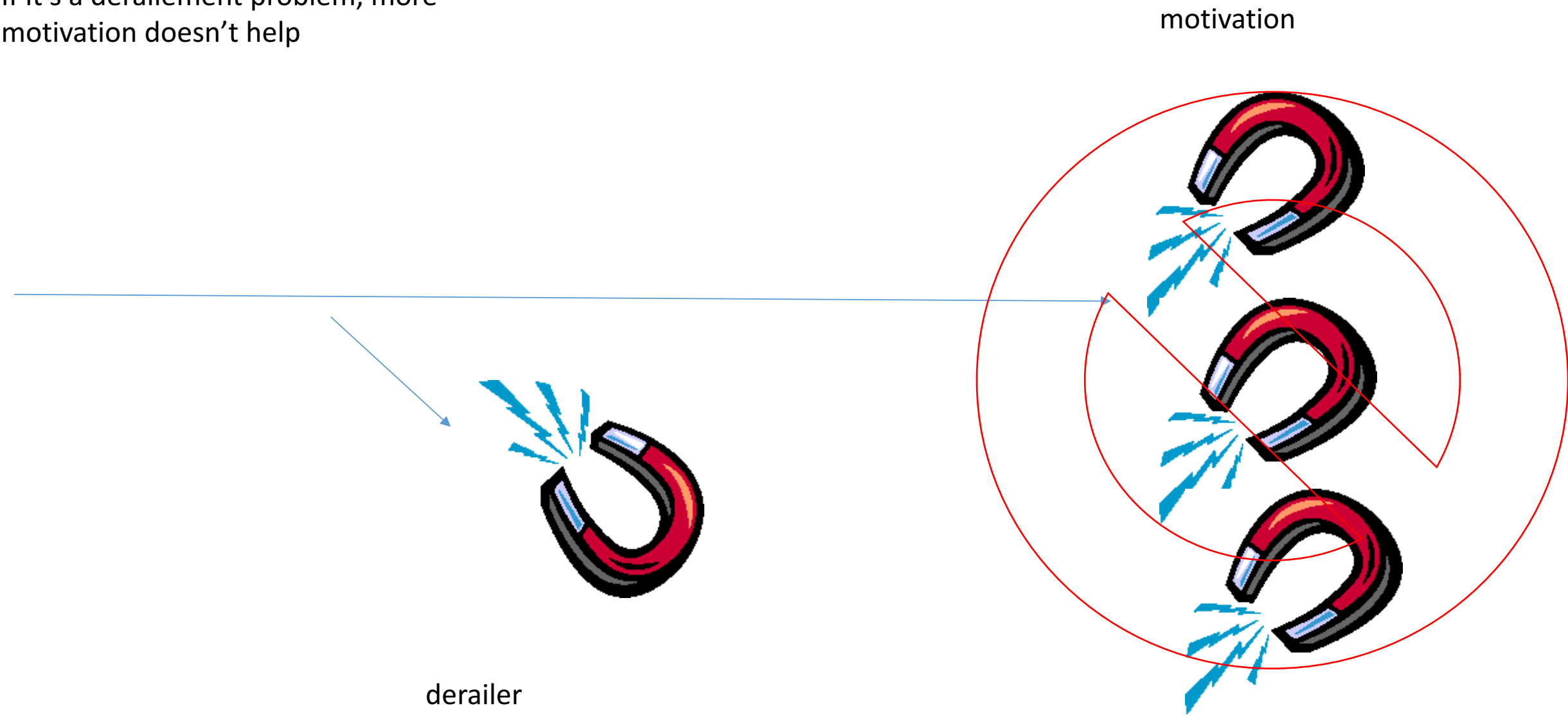
Derailing the learners experience



derailer

motivation

If it’s a derailement problem, more motivation doesn’t help



Common derailers

motivation

Anything that affects will power and “ability”

Thank you!