CARD Montana Autism Conference

November 19, 2011

Sienna Greener-Wooten, M.A., B.C.B.A

Schedule

- 9:00-12:00
  - What is Applied Behavior Analysis (ABA) and how ABA can effectively treat children with ASD
  - Creating comprehensive and individualized treatment programs for children with ASD
  - Insurance Information
- 12:00-1:30: Lunch on your own
- 1:30-2:30: Recovered
- 2:30-3:30:Living proof, recovery is possible-Joe Mohs
- 3:30-4:30: Q&A

Overview

- CARD History
- What is Autism?
- Children with Autism DO Recover
- What is ABA?
  - How do we use ABA to reduce challenging behaviors?
  - How do I use ABA to teach skills?
  - What actual skills do I need to teach my child?
- CARD Model
- Montana Insurance Information

CARD History

Mission Statement

To lead the field of autism

by providing global access to the latest scientifically proven, top quality behavioral services to our patients and their families, and in doing so, help them achieve the most they can!

Our Founder-Doreen Granpeesheh, PhD., BCBA-D

- Dr. Doreen Granpeesheh is a world-renowned clinical psychologist and expert in the field of autism research and therapy
- She has worked with a wide range of patients – from high-functioning children with autism to the most challenging individuals whose families have been told to give up hope
- With a PhD in Psychology from UCLA, Dr. Doreen is licensed by the medical boards of California, Texas, and Virginia and Arizona State Boards of Psychologists and is a Board-Certified Behavior Analyst

Our Founder

- Dr. Granpeesheh was a student at UCLA and worked on the original 1987 study
- She opened CARD in 1990 with a couple of clients and employees
- She currently serves as the Executive Director of CARD; steering the day to day development of new projects and ensuring the clinical excellence of the company

Locations

- CARD Headquarters is located in Tarzana, CA
- We have offices in six states and two countries
- We have 20 US office locations and 3 offices soon to open
- 2 international offices

What is Autism? DSM IV

- **Autistic Disorder** A total of six (or more) items from (1), (2), and (3), with at least two from (1), and one each from (2) and (3):
- (1) qualitative impairment in social interaction, as manifested by at least two of the following:
  - (a) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
  - (b) failure to develop peer relationships appropriate to developmental level
  - (c) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest)
  - (d) lack of social or emotional reciprocity

Autism DSM IV

- (2) qualitative impairments in communication as manifested by at least one of the following:
  - (a) delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
  - (b) in individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others
  - (c) stereotyped and repetitive use of language or idiosyncratic language
  - (d) lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

Autism DSM IV

- restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
  - (a) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
  - (b) apparently inflexible adherence to specific, nonfunctional routines or rituals
  - (c) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole body movements)
  - (d) persistent preoccupation with parts of objects
- B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years: (1) social interaction, (2) language as used in social communication, or (3) symbolic or imaginative play.
- C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder.

Aspergers DSM IV

- *A. Qualitative impairment in social interaction as manifested by at least two of the following:*
  - (1) marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
  - (2) failure to develop peer relationships appropriate to developmental level
  - (3) a lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (e.g., by a lack of showing, bringing, or pointing out objects of interest to other people)
  - (4) lack of social or emotional reciprocity

Aspergers DSM IV

- *B. Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:*
  - (1) encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
  - (2) apparently inflexible adherence to specific, nonfunctional routines or rituals
  - (3) stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)
  - (4) persistent preoccupation with parts of objects

Aspergers DSM IV

- C. The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.
- D. There is no clinically significant general delay in language (e.g., single words used by age 2 years, communicative phrases used by age 3 years).
- E. There is no clinically significant delay in cognitive development or in the development of age-appropriate self-help skills, adaptive behavior (other than in social interaction), and curiosity about the environment in childhood.
- F. Criteria are not met for another specific Pervasive Developmental Disorder or Schizophrenia

PDD-NOS DSM IV

- This category should be used when there is a severe and pervasive impairment in the development of reciprocal social interaction or verbal and nonverbal communication skills, or when stereotyped behavior, interests, and activities are present, but the criteria are not met for a specific pervasive developmental disorder, schizophrenia, schizotypal personality disorder, or avoidant personality disorder. For example, this category includes "atypical autism" --presentations that do not meet the criteria for autistic disorder because of late age of onset, atypical symptomatology, or subthreshold symptomatology, or all of these.

DSM V (5/2013)

- **Autism Spectrum Disorder**
- Must meet criteria A, B, C, and D:
- A. Persistent deficits in social communication and social interaction across contexts, not accounted for by general developmental delays, and manifest by all 3 of the following:
  - 1. Deficits in social-emotional reciprocity; ranging from abnormal social approach and failure of normal back and forth conversation through reduced sharing of interests, emotions, and affect and response to total lack of initiation of social interaction,
  - 2. Deficits in nonverbal communicative behaviors used for social interaction; ranging from poorly integrated- verbal and nonverbal communication, through abnormalities in eye contact and body-language, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures.
  - 3. Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers); ranging from difficulties adjusting behavior to suit different social contexts through difficulties in sharing imaginative play and in making friends to an apparent absence of interest in people

DSM V (5/2013)

- Restricted, repetitive patterns of behavior, interests, or activities as manifested by at least two of the following:
  - 1. Stereotyped or repetitive speech, motor movements, or use of objects; (such as simple motor stereotypies, echolalia, repetitive use of objects, or idiosyncratic phrases).
  - 2. Excessive adherence to routines, ritualized patterns of verbal or nonverbal behavior, or excessive resistance to change; (such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes).
  - 3. Highly restricted, fixated interests that are abnormal in intensity or focus; (such as strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).
  - 4. Hyper-or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment; (such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects).
- C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities)
- D. Symptoms together limit and impair everyday functioning.

What is Autism?

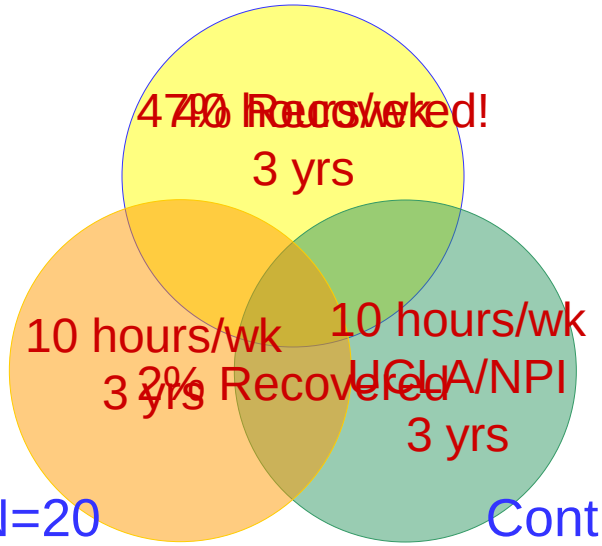
- Communication:
  - My child is delayed in language
  - My child has no eye contact
- Social Behavior:
  - My child doesn't interact with anyone
  - My child doesn't play with others
- Stereotypy:
  - My child does repetitive behaviors (lining up objects, opening closing door, turning on and off the lights)
  - My child is inflexible and needs routines
- Anything else?
- Challenging Behaviors?
- Sensory Sensitivities?
- Medical Illnesses?

Children with Autism DO RECOVER!

How many people here believe that kids with autism fully recover?

1987: Behavioral Treatment and Normal Educational and Intellectual Functioning in Young Autistic Children

Experimental Group: N=19



Control Group 1: N=20

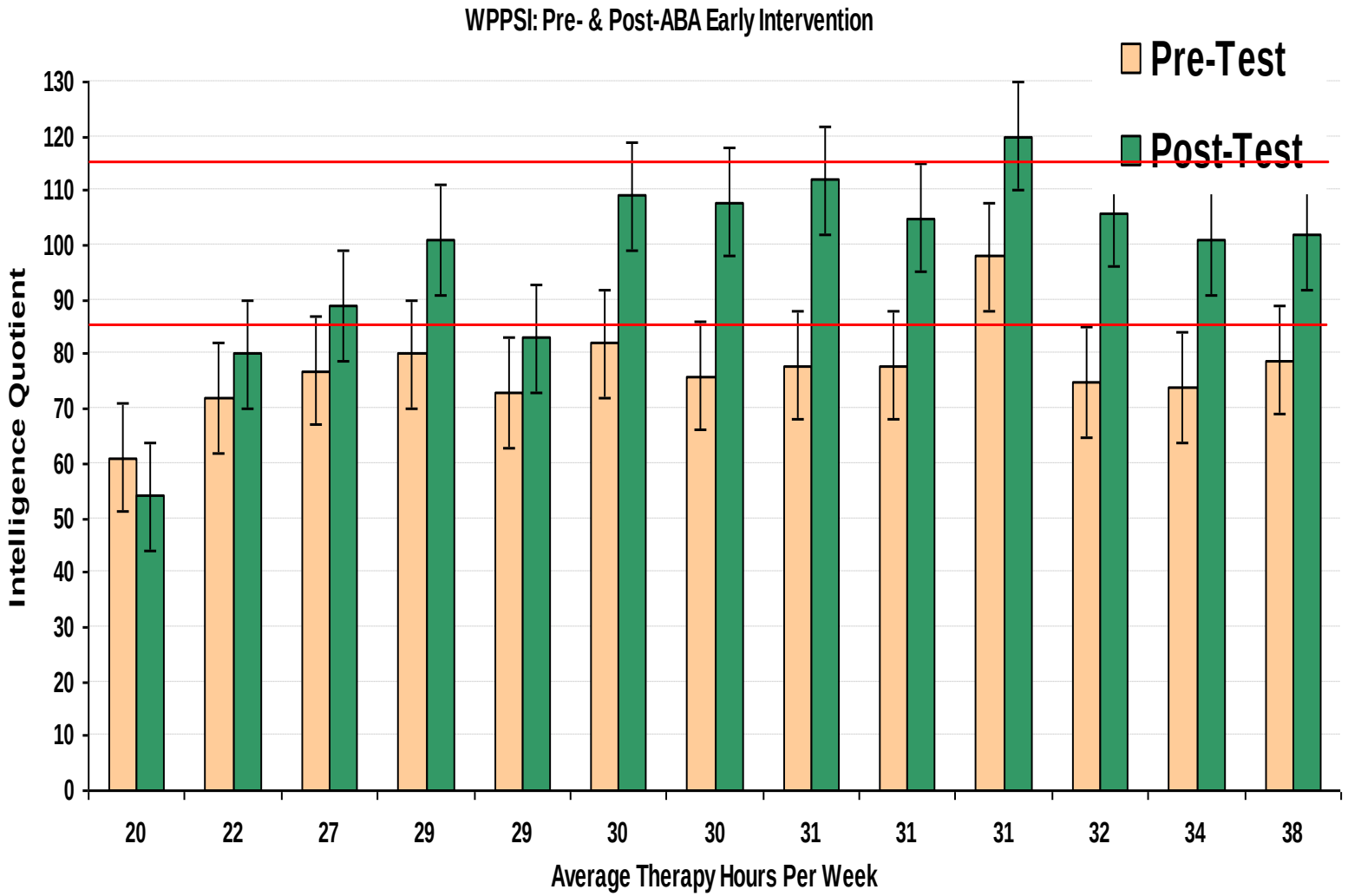
Control Group 2: N=20

Pre-Post 3-year CARD Intervention

- N=13 (12 boys, 1 girl)
- Mean age at enrollment
  - 42 months (3.4 years)
  - Range: 37-48 months

- Method
  - All children were given WPPSI or WISC at Pre- and Post- 3 year ABA early intervention

Normal Cognitive Functioning



CARD Post-Intervention Results

- 7 of 13 (53.8%) no longer had ASD diagnosis
- 6 of 13 (46.2%) went from Autism to PDD or Aspergers
- Average IQ score gain of 20.5 points
  - 7-28 points in the literature (Smith, 1999)
- "Recovered" children received an average of 34 hours of therapy
  - Gained an average of 27.7 points on Wechsler
- ASD children received an average of 26 hours of therapy
  - Gained an average of 12.2 points on Wechsler

Retrospective Analysis of Clinical Records in 39 Cases of Recovery from Autism

Doreen Granpeesheh*, Martha Herbert†, Jonathan Tarbox*, & Dennis Dixon*
*Center for Autism and Related Disorders, inc.
†Harvard Medical School

Introduction

- 20 years of research on early intensive applied behavior analytic (ABA) treatment for children with autism has consistently produced robust treatment effects (Eikeseth, 2008; Myers, 2007).
- A subset of children respond best to intensive ABA treatments, including achieving a level of functioning that is indistinguishable from typically developing peers.
- Little previous research has attempted to describe the characteristics of the children who achieve developmentally average functioning following ABA treatment.

Purpose

- To describe the characteristics, duration and intensity of treatment, and outcome for a group of children previously diagnosed with an ASD, who received ABA treatment and subsequently achieved a level of functioning indistinguishable from typically developing peers.

Method

Initial Participant Selection
- All participants were past clients of CARD.
- We asked senior clinical staff to identify every client whom, in their opinion, between 1990 and 2007, achieved age-appropriate functioning and no longer required supports of any kind after discharge.

Chart Review
- All available clinical records were obtained for all clients identified in the *Participant Selection* phase of the study.
- All records were searched for the following information:
  - Intake and discharge evaluation reports
  - All standardized testing results
- Billing data for all clients were retrieved, in order to identify the following:
  - Start and stop date of treatment
  - Monthly hours of therapy for entire duration of treatment

Final Clinician Interview
- All children whose charts contained pretest and postest were included for the final clinician interview.
- Clinicians who treated each child at the time of discharge were asked to recall any indication of a residual ASD, thereby excluding participants.

Results

- The *Participant Selection* phase of the study yielded 204 names.
- The *Chart Review* phase of the study yielded 39 participants with both pretest and posttest IQ scores present in their charts.
- Figure 1 depicts pre and post scores, with IQ score depicted on the vertical axis and individual participants on the horizontal axis.
- Figure 2 depicts the IQ at intake and IQ change scores for each participant.
- Figure 3 depicts pre and post adaptive scores.
- Figure 4 depicts the average number of treatment hours per participant, from the first month of treatment to the 60th.
- Figure 5 depicts the distribution of IQ change scores.
- Table 1 depicts statistics for the age at intake, pre and post IQ scores, pre and post VABS scores, and change in IQ and VABS scores.

Figure 1: Pre and Post Treatment IQ Scores

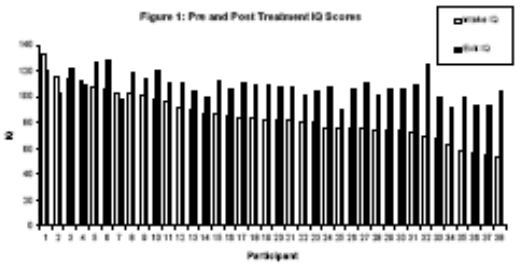


Figure 2: Intake IQ and Change in IQ

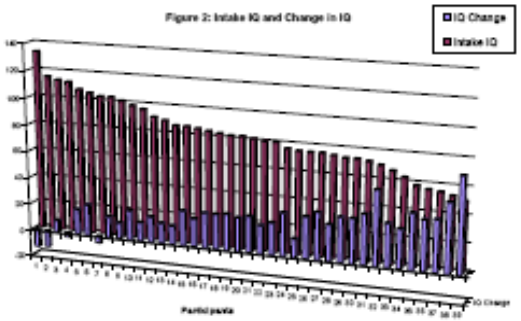


Figure 3: Individual Adaptive Scores

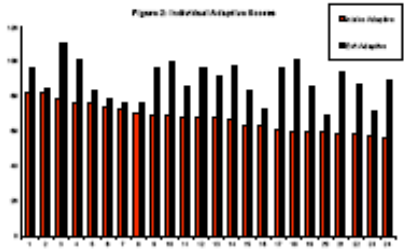


Figure 4: Average Treatment Hours per Month

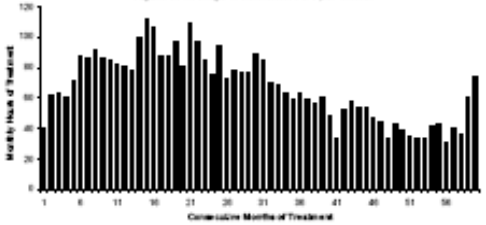


Figure 5: Distribution of IQ Change Scores

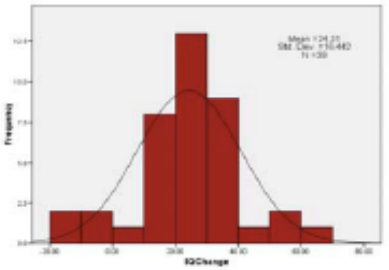


Table 1: Mean IQ and Adaptive Scores

	Mean	SD	Range	
Age at Intake	40.37	7.18	24-55	
Start IQ	83.6	18.9	50-133	IQ Change
Exit IQ	107.9	9.5	89-128	24.31
Start Adaptive	67.71	7.79	57-82	Adaptive Change
Exit Adaptive	88.75	10.79	69-111	21.04

Discussion

Implications
- Our findings appear to corroborate the general finding from previous literature that some children with an ASD who receive early intensive ABA treatment achieve typical functioning.
- Participants in this study began treatment with relatively high IQ (i.e., 84) and it is possible that this fact contributed to recovery.
  - However, Figure 2 demonstrates a negative relation between the magnitude of IQ gain and IQ at intake.
- Similarly, participants in this study began treatment at a relatively young age and this may have contributed to the optimal outcomes obtained.
- Our data provide the first relatively large scale description of the characteristics of individuals who achieve an optimal outcome.
- Our data provide a description of recovery from autism produced by ABA treatment provided in a community-based setting, not a university-based center.

Limitations
- Retrospective chart review is perhaps the least rigorous form of treatment research.
- Because our study lacks an experimental design, it is possible that the participants in this study would have recovered from autism without ABA treatment. This seems unlikely, however, given that no previous study has reported the spontaneous recovery of a substantial number of children with autism.
- Future research should include more rigorous measurement of client functioning level, including language, social skills, and rigorous diagnostic instruments (e.g., ADOS, etc.)

Nick

- Diagnosis: Autism
- Intake:
  - Age: 4.2 years
  - Pre-test: IQ 83 Borderline MR
  - Deficits: no eye contact, no response to name, had minimal speech such as labeling colors, letters, and about 30 objects, frequent tantrums with aggression toward mom
- Treatment:
  - 10 years of ABA
  - Average intensity of 31 hours/week in first 4 years, then faded to 4 hours in last years
  - Focus on Distractibility
- Exit:
  - Age: 14 years
  - Post test: IQ 109 (normal is 85-115)
  - Normal classroom placement, A student, has many friends, plays several musical instruments, voted most likely to succeed in class!

What is Applied Behavior Analysis

- ABA is based on the principles of

Operant Conditioning Theory:

"Human Behavior is affected by events that precede it (antecedents) and events that follow it (consequences)"

Change these events…change Behavior!

What does that mean?

- In ABA, we manipulate antecedents and consequences in order to increase functional and adaptive behaviors, and decrease challenging behaviors.
- We give reinforcers when a good (adaptive) behavior occurs
- We remove reinforcers when a bad (challenging) behavior occurs

What behavior do we want to change?

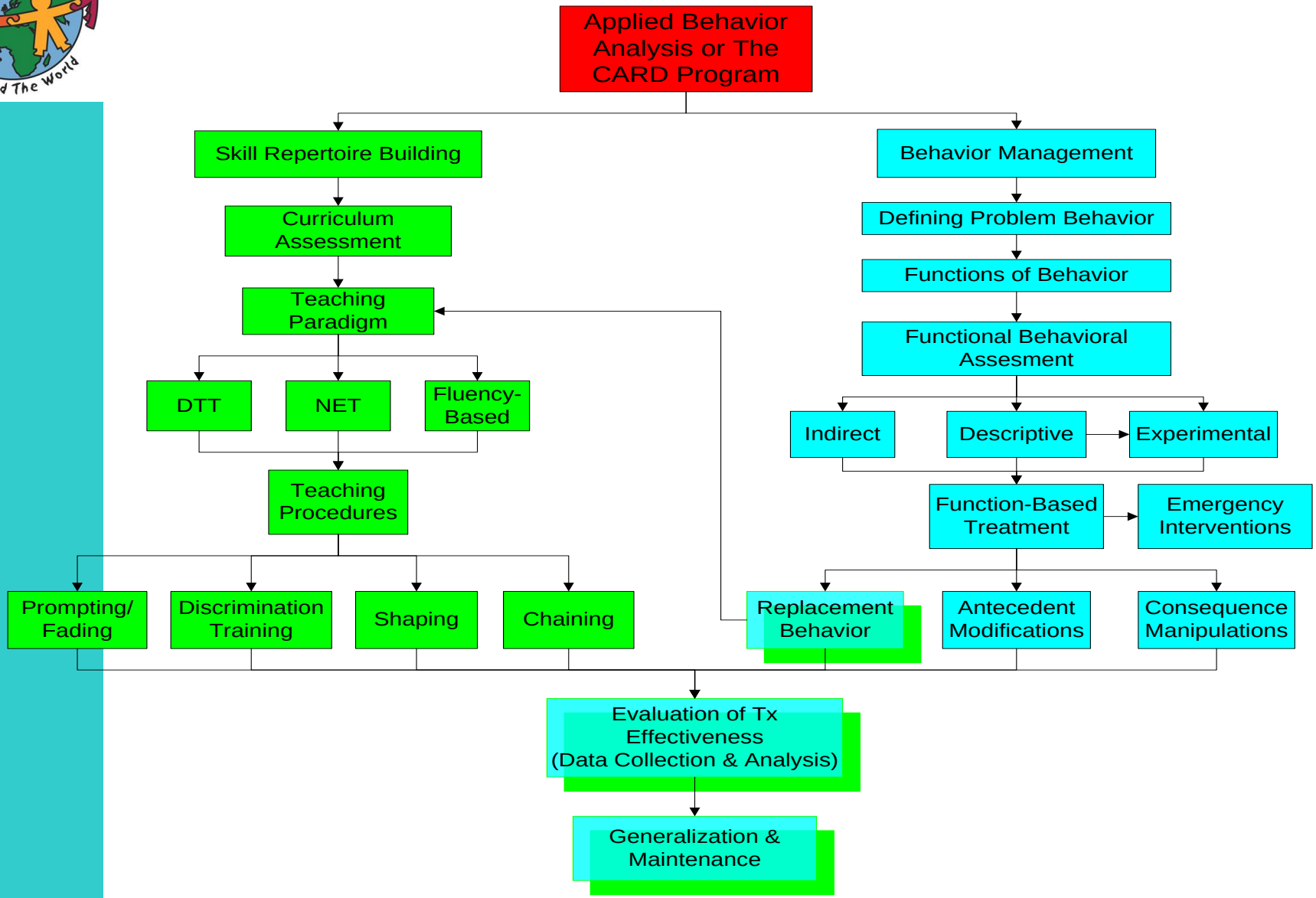
- **Deficits**
  - Language
  - Play
  - Social Skills
  - Theory of Mind
  - Executive Functions

- **Excesses**
  - Self Stimulatory Behs
  - Maladaptive Behs
    - Tantrums
    - Aggression
    - Noncompliance

Skill Repertoire Instruction:
Manipulating Antecedents and Consequences
in order to teach skills

Behavior Management:
Manipulating Antecedents and Consequences
in order to manage challenging behaviors

THE CARD MODEL



Behavior Management

Behavior Management

- ABA is a technique to change behavior!
- What is Behavior?
  - Behavior is anything we do, good bad or neutral
- Challenging behavior is anything that could hurt someone, or be maladaptive in any way.
- Challenging behaviors make life less fulfilling and more difficult for the child and his family
- Why do we do the behaviors we do?
  - To get good stuff
  - To avoid bad stuff

Why does my child do these things?

- Everything we do is to
  - Get good stuff
  - Avoid bad stuff
- Challenging Behavior is your child's way of telling you what he wants
- He may not care that his way of telling you is not the "appropriate way"
- He may not have the skills to tell you the appropriate way!

Some things kids want…

Attention

- good or bad

Tangibles

- our favorite foods
- fun activities
- toys
- playground

Some things kids want to avoid…

- Having to work
- Classroom
- Listening to people telling us what to do
- Giving up something we want to keep doing
- Taking a bath
- Getting ready in the morning

Most of the time…

- We have to give up something we really want AND do something we really don't want

  - Stop Playing and come inside to eat dinner
  - Wake up and get ready for school
  - Come in and take a bath
  - Get off the phone and go clean up your room
  - Stop doing anything self stimulatory and interact!!!

What are some challenging behaviors my child does?

- He hits people
- Throws himself on the floor
- Runs away
- Throws things at people
- Screams
- Bangs his head
- Spits at people

Why does my child do these things?

- Everything we do is to
  - Get good stuff
  - Avoid bad stuff
- Challenging Behavior is your child's way of telling you what he wants

- Can we figure out what he/she is trying to communicate?

Challenging Behavior

Example: getting good stuff

Jenny is playing with her favorite toy. Parent says "okay, time to put away the toy"

Jenny starts whining

Jenny gets to have the toy a little longer

How is this like language? What is Jenny saying by whining? How about "I don't want to put my toy away, can I play a little longer?"

Can we teach her to say that?

What is my child trying to communicate? What is the "Function" of his behavior?

- In ABA we study behavior by looking at
  - The behavior-what it looks like
  - What happened right before it (Antecedents)
  - What happened right after it (Consequences)

  - This is called a behavioral contingency
  - If we can change the behavioral contingency, we can change behavior!

Challenging Behavior

Example: avoiding bad stuff

Jacob hates baths. Parent says "Time to take a bath" → **Jacob cries and throws himself on the floor** → **Jacob gets to avoid the bath for five more minutes**

How is this like language? What is Jacob saying by crying and throwing himself on the floor? How about "Can I have five more minutes Mom?" Can we teach him to ask for more time?

Challenging Behavior

Example: getting good stuff AND avoiding bad stuff

Johnny is playing outside. Parent says "Time to come inside and clean your room"

➡

Johnny runs away

➡

Johnny gets to play outside a little longer AND doesn't have to clean his room yet

How is this like language? What is Johnny saying by running away? How about "I want to keep playing AND I don't want to clean my room"

Can we teach him to say that instead?

Dealing with challenging behaviors

- If we teach appropriate communication skills, they will replace challenging behaviors in our kids
- Challenging behaviors are NOT part of the Autism diagnosis! They are just a side effect!

Parent Behavior

- The way that we interact with our kids either helps us get good stuff or avoid bad stuff too
- What can be good stuff for parents?
  - Seeing your kid happy
  - Some time to rest
- What can be bad stuff for parents?
  - Seeing your kid unhappy
  - Dealing with problematic behavior (tantrums, etc.)
- Let's have another look at the examples, but from the parents' point of view…

Challenging Behavior

Example: getting good stuff

Jenny is playing with her favorite toy. Parent says "okay, time to put away the toy"

➡

Jenny starts whining

➡

Parent gets to see Jenny happy
And
Avoids seeing her whine

Challenging Behavior

Example: avoiding bad stuff

Jacob hates baths. Parent says "Time to take a bath"

Jacob cries and throws himself on the floor

Parent gets to see Jacob happy
And
Avoids having to deal With his tantrum

Challenging Behavior

Example: getting good stuff AND avoiding bad stuff

Johnny is playing outside. Parent says "Time to come inside and clean your room"

➡

Johnny runs away

➡

Johnny gets

Parent gets to see Johnny happy And Avoids chasing After him

Let's sum it all up…

- People do what they do because they get something good or avoid something bad
- Sometimes what we do is inappropriate but as long as we get something good or avoid something bad, we do it anyway!
- Sometimes what we do makes life easier short term, but harder long term, so even though it seems ok for now, we still need to change it!

Can I change my child's behavior?

- Would your child keep doing the problematic behavior if he/she didn't get what they want out of it anymore?
- What if he/she was able to get what they want for doing something more appropriate?
- **What if the appropriate behavior got them what they want, AND was easier than the problematic behavior?**

How can I change problem behavior?

- What if it becomes easier to say “Break” than to throw a tantrum
- What if you get a toy **only** if you say “toy please” and **not** when you scream and cry
- What if you realize you can’t leave the classroom every time you scream

It Does Work!!!

- If you ignore problem behavior AND
- Reward good behavior

- You will get good behavior instead of problem behavior!!

Wow! That was easy!!

Its not THAT easy!!

- ***Some procedures we use…***
  - *Noncontingent Reinforcement*
  - *Extinction*
  - *Differential Reinforcement*
    - DRO
    - DRA
    - DRI
  - *Nonexclusionary Time-Out*
  - *Response Cost*
- *Knowing which procedure to use, depends on what your child is trying to communicate…that's the "Function" of the behavior!*

Functional Behavior Assessment

- Why is my child behaving that way…what is he trying to communicate? what is the function of my child's behavior?
  - Is he having a tantrum because he wants an object?
  - Is he throwing himself on the floor because he wants to avoid a situation?
  - Is he hitting someone because he wants attention and doesn't know how to ask for it?
- The function of the behavior (the reason it occurs) tells you what to do!

Functions of Behavior

Antecedent	→	Behavior	→	Consequence
Andy wants toy	→	Andy hits sibling	→	Andy gets toy
Dan hates school	→	Dan screams	→	Dan is sent home
Jeff wants attention	→	Jeff tantrums	→	Jeff gets attention

Now we know the functions of the behaviors…if you know why a behavior happens, you can change it!

Functions of Behavior

- Attention (Positive or Negative)
- Access to Tangible Items
- Escape or Avoidance
- Automatic

ABA tells us we can…

Change any behavior if we change the

Antecedent

or

Consequence

or

Both!

How do we change behavior?

- Change behavior by changing the antecedent or the consequence or both!

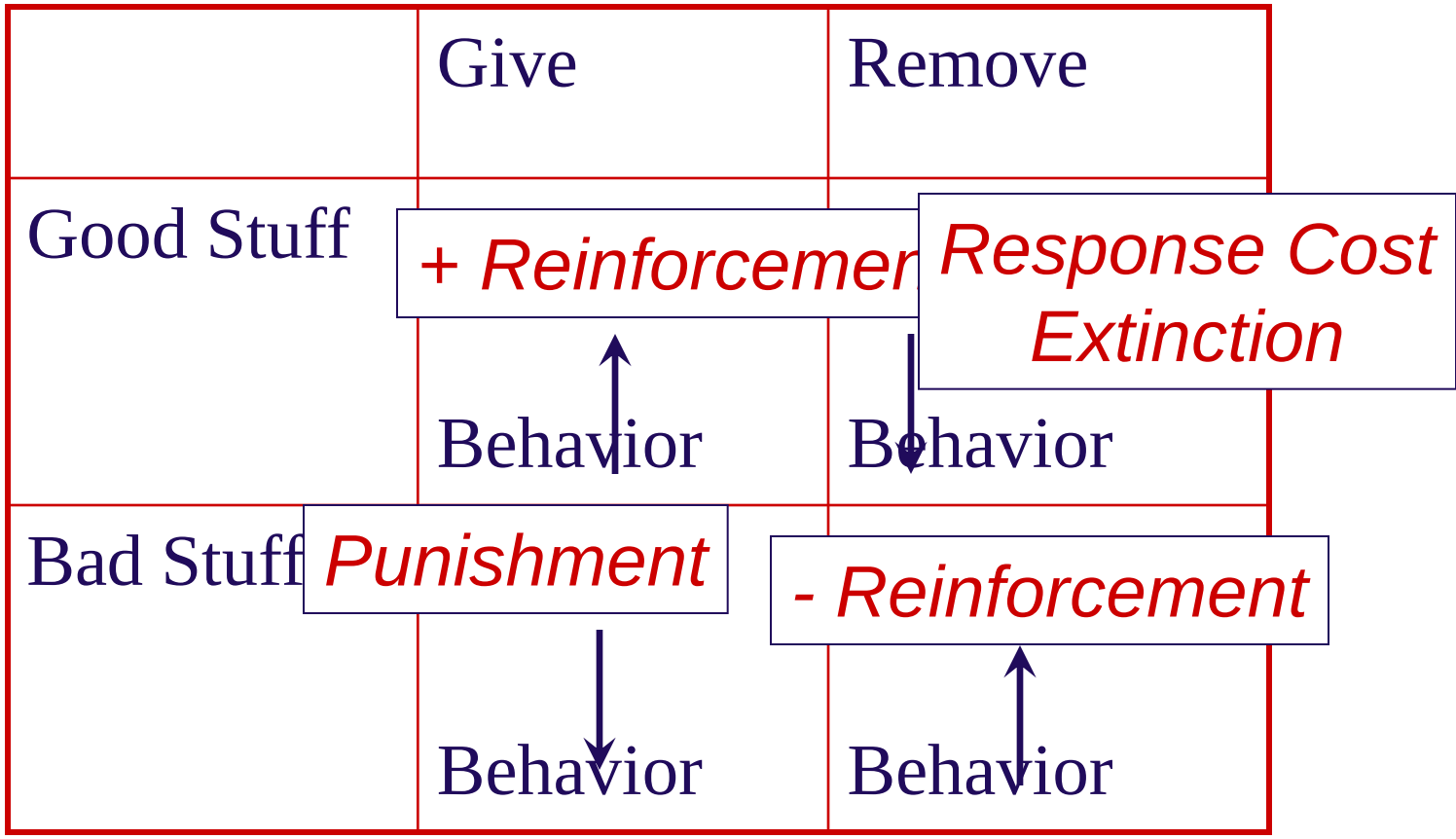
Recap

- Everything we do is to
  - Get good stuff
  - Avoid bad stuff
- We have the power to change behavior by helping our kids
  - Get good stuff in an appropriate way
  - Avoid bad stuff in an appropriate way

Some Common Terms

- Preferred Item
- Reinforcer
  - Positive Reinforcer
  - Negative Reinforcer
- Punisher
  - Positive Reinforcer
  - Negative Reinforcer

Changing Behavior



Lets look at some techniques

- Extinction:
  - Preventing access to the good stuff when an inappropriate behavior happens
    - Child tantrums but gets NO attention
    - Child screams to get a toy but doesn't get toy
    - Child throws object to get out of class but doesn't get out of class
    - Child spits to get you to leave him alone, but you don't leave him alone

Extinction for Attention

- Extinction is a procedure you may use when your child is trying to get attention by engaging in a problematic behavior
- Ignore the behavior that is problematic
- Do not provide eye contact or interact vocally with the child
- Do not provide redirection that involves providing attention
- Do not talk about the child's behavior in front of him/her to another person

Extinction for Attention Function

The Wrong Way

The Right Way

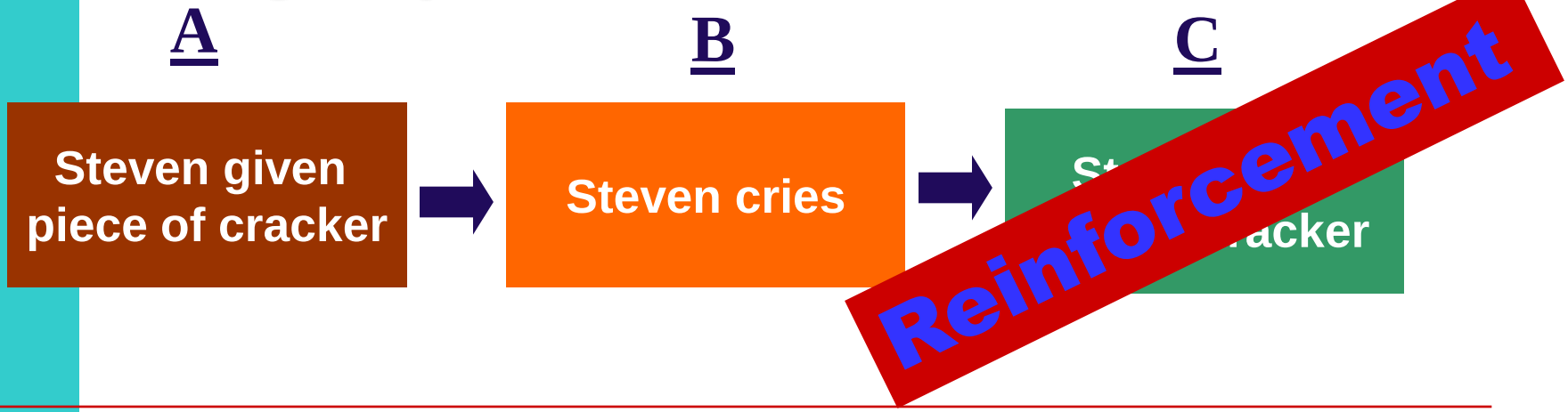
Extinction for Access to Tangible Function

- Extinction is also a procedure you may use when a child is engaging in problematic behaviors to get a tangible such as a toy

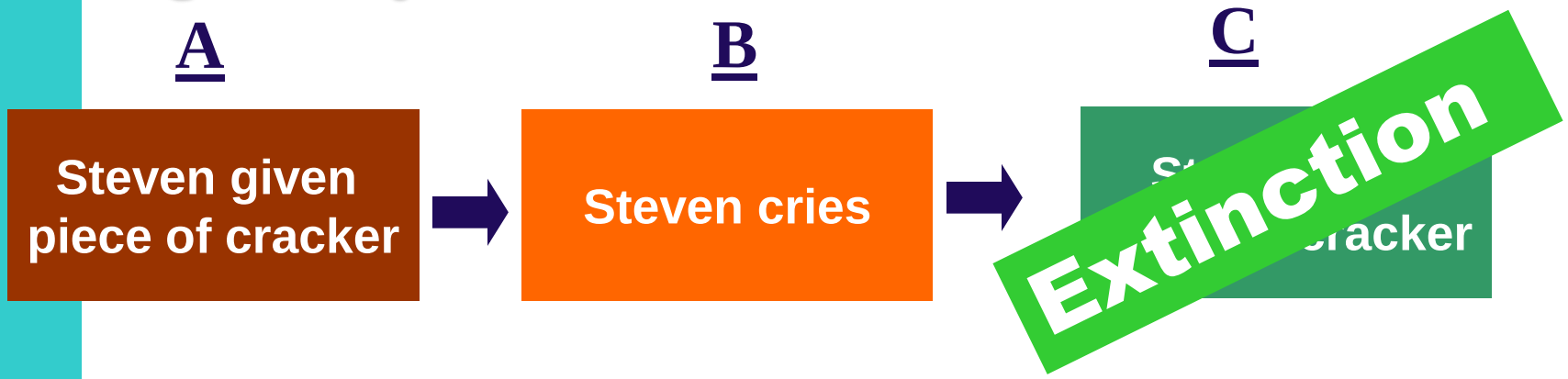
- If this is the case, don't provide access to the tangible item or activity your child is trying to get by engaging in the problem behavior

Extinction for Tangible Function

The Wrong Way



The Right Way



Extinction for Escape

- You can also use extinction if your child is engaging in a problematic behavior in order to get out of doing a task
- Escape extinction
  - In escape extinction we continue to give our instruction while ignoring the problematic behavior
  - It involves no longer allowing the child to escape or "get out of" demands when they engage in the problem behavior
  - Remember that your reaction to a child's problem behavior can affect his/her behavior
    - Body language
    - Sighing, cursing, rolling your eyes
    - Talking about the child's behavior to others, especially in front of the child

Extinction for Escape Function

The Wrong Way

A	B	C
Julia prompted to do puzzle	Julia hits	Julia [illegible] pted

Reinforcement

The Right Way

A	B	C
Julia prompted to do puzzle	Julia hits	Julia [illegible] zzle

Extinction

Extinction Example for Behavior Maintained by Escape from Demands

Fill in the Consequence to make this an example of extinction…

Extinction Burst

- **An extinction burst is what happens when you first stop providing the previous reinforcer for the problem behavior**
  - **Its an initial increase in the problem behavior, before it decreases**
- **Example:**
  - In the past, people gave Jacob tangible reinforcers such as candy when he cried
  - When therapists & parents begin to implement extinction, initially, Jacob cries louder as well as begins to throw tantrums, falling on the floor & kicking
  - If we continue to consistently use extinction, Jacob will stop crying in these kinds of situations

Differential Reinforcement

- Reinforce desired behavior (A)

AND

- Don't reinforce (extinguish) undesired behavior (B)

Differential Reinforcement Procedures

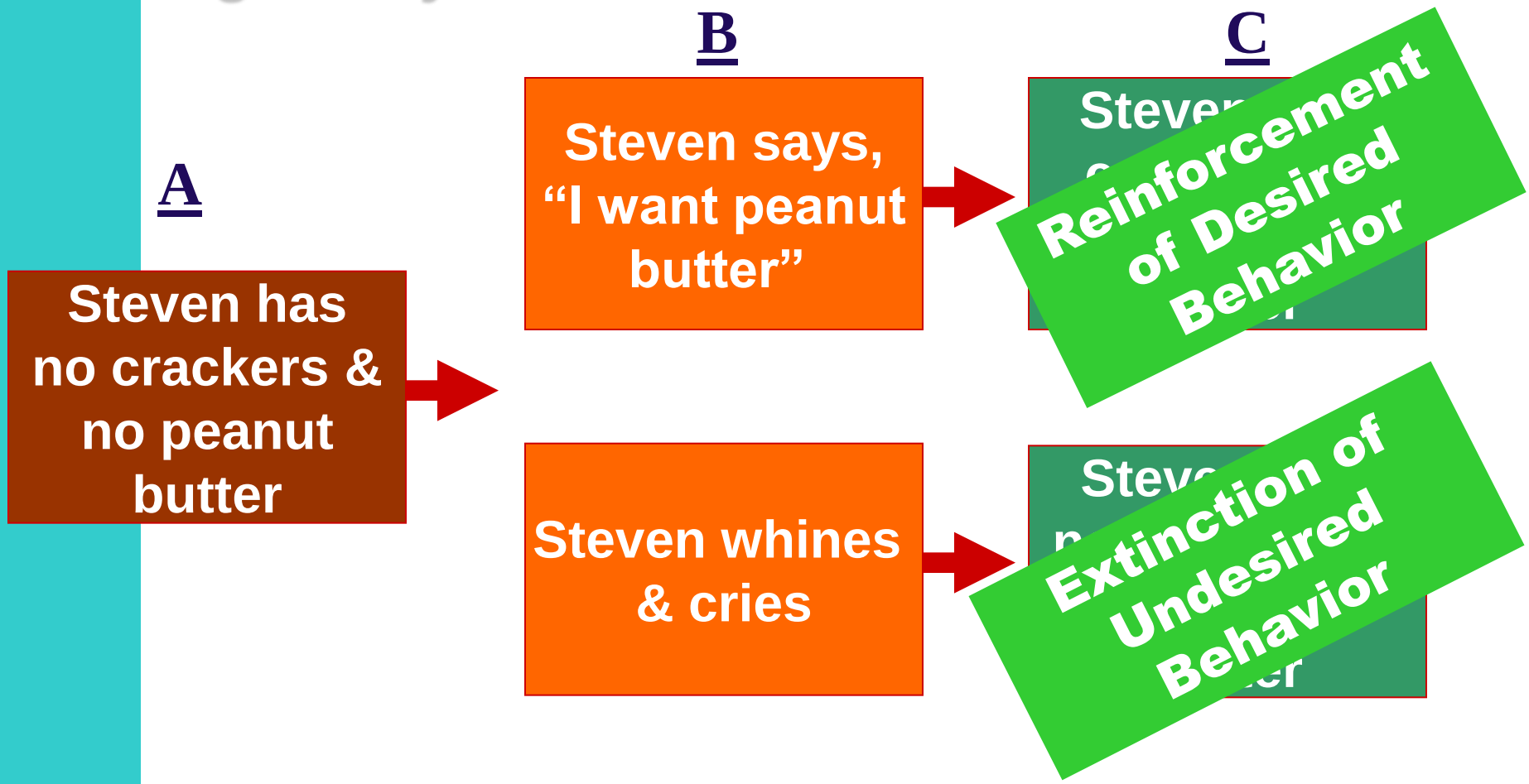
- ✓ DRO: Differential Reinforcement of Other Behavior
- ✓ DRA: Differential Reinforcement of Alternative Behavior
- ✓ DRI: Differential Reinforcement of Incompatible Behavior

Differential Reinforcement

- DRO: Reinforce the child when he is not engaging in the problem behavior and put the problem behavior on extinction
- DRA: Reinforce the child for doing a more appropriate replacement behavior and put the problem behavior on extinction
- DRI: reinforce the child for doing a replacement behavior that is incompatible with the problem behavior and put the problem behavior on extinction

Example of DRA

The Right Way



Challenging Behavior

Recap

- Whenever a child wants something, he/she has two choices:
  1. Try to get it in an appropriate way
  2. Try to get it in an inappropriate way
- Helping your child have appropriate behavior means making that choice easy for them by:
  1. Give them what they want for good behavior
  2. Don’t give them what they want for destructive behavior
  3. Make it EASY for them to do the good behavior (take baby steps)

Skill Teaching

- Same Principles
  - Reward good behavior so it increases
  - Ignore or redirect problem behavior so it decreases
- Many different protocols and models of teaching
  - DTT (Discrete Trial Training)
  - VBA (Verbal Behavior Analysis)
  - NET (Natural Environment Training)
  - PRT (Pivotal Response Training)
- Different techniques, but all based on the same principles!

Applications of Behavior Analysis

- Discrete Trial Training
  - Lovaas (1960's): Applied Principles to teaching Children with Autism
  - Developed strategy for teaching
    - ABC→ Discrete Trial (Sd→R←Sr)
    - Do intensive teaching (40 hours)
    - Teach at a table (table time)
    - Teach one target at a time, then rotate
    - Make sure the child succeeds 30% of the time (NNP)
    - Developed a basic Curriculum
- 1987: Behavioral Treatment and Normal Educational and Intellectual Functioning in Young Autistic Children

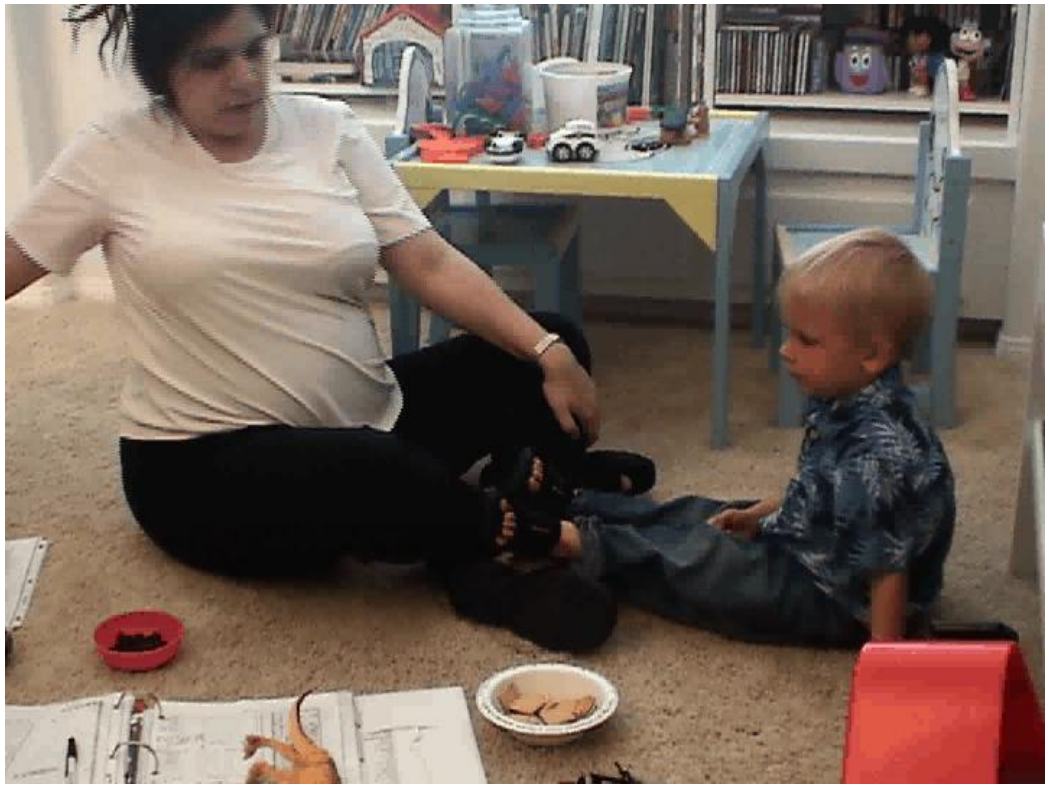
Discrete Trial Training: NVI Chain

Verbal Behavior

- B.F.Skinner: Verbal Behavior (1957): Applied principles of Behavior Analysis to Language
- Separates language (verbal behavior) into categories by their function
- Careful analysis of stimulus control:
  - Echoic: you hear, you say same
  - Mand: you want, you say, you get
  - Tact: you see (or smell, taste, touch), you say
  - Intraverbal: you hear, you say different
- Skinner's analysis first applied to language training with children with autism – 1980's

Echoic Training

Mand Training



Tact Training

Intraverbal Training

Mixed Operants

Contributions from Verbal Behavior

- Let's consider the child's motivation (EO) in teaching language: teach Mands first!
- Let's teach the child the different functions of language ("cookie" to imitate, request, label or recall)
- Let's teach spontaneous language (pure vs. impure operants)

Natural Environment Training

- Koegel, O'Dell, & Koegel (1987): Teaching should take place in the child's natural environment
- Difficulty in controlling child outside of table time setting….
  - therapist must pair himself with reinforcer
  - program must be 80% easy so that child does not want to leave the task

NET

Contributions from NET

- Provide more opportunities for teaching in child's Natural Environment
- Choose Targets based on child's interest and mix the Targets as they come up in child's environment
- Therapist plays with child initially so that he takes on properties of reinforcer
- Teaching in Natural Environment aides in generalization of skills

Errorless Learning

- Skinner (1968), Terrace (1963)
- A prompt should occur on every trial & be carefully faded to minimize errors

- Prompt dependence?
  - Fade Prompts
  - Experience is more positive for the child
  - Learning occurs more rapidly

Contributions from Errorless Learning

- New and difficult programs are prompted more frequently…as the program is mastered, prompt frequency is reduced

Fluency Based Instruction

- O.R. Lindsley (1990): Being able to respond accurately and rapidly (fluency) results in better retention and generalization
  - Retention: the child remembers better
  - Endurance: child has sustained performance
  - Stability: child can persevere despite distractions
  - Application: child generalizes more readily
  - Adduction: child can create new skills by joining the component skills that he is fluent in

Contributions from FBI

- Take composite skills and break them into components
- Teach the components to fluency by providing reinforcement for rapid, accurate responding

Fluency Based Instruction

Recap of Teaching Techniques

- DTT: Identify the Sd→R←Sr
- VB: Use child's motivation (EO), Teach various functions of language
- EL: prompt more frequently then fade
- NET: reduce table time…go to natural environment, rotate targets, pair self with reinforcement
- Fluency: practice to increase speed and accuracy

Now I know "How" to teach!"
Now I need "What to teach!"

- If I want my child to play more with his friends, what elements of "play" do I teach?
- If I want my child to speak appropriately, what do I teach?
- If I want my child to tell me how he feels, how do I do that?
- I want to teach him everything he needs to function "normally"!

But what is "Normal"?

Skill Repertoire Building

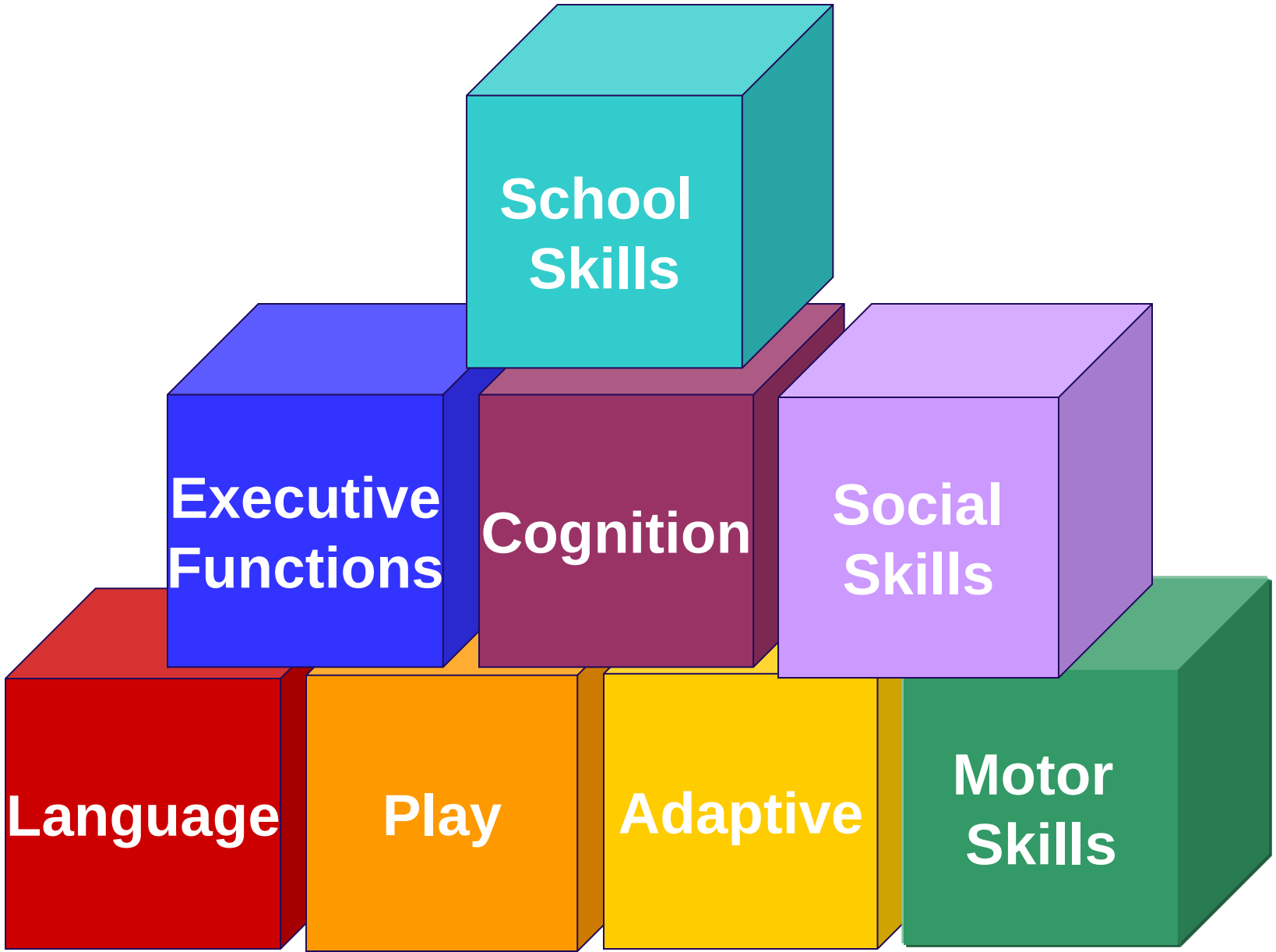
Shaping Knowledge Through Individualized Life Learning Systems (SKILLS)

1. Assess exact skills each child has
   - Use these strengths to teach
2. Assess exact deficit areas
   - Break down and teach in a way that builds upon each other

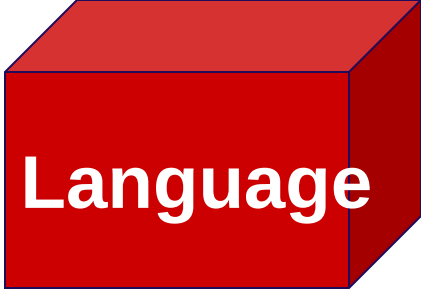
What is the "Norm" and how far off is my child?

- CARD I Skills Index (Ages 0-7.11)
  - A detailed index of skills in the areas of
    - Language
    - Play
    - Social Skills
    - Adaptive Skills
    - Cognition
    - Executive Functions
    - School Skills
    - Motor Skills
  - Several hundred skills evaluated
  - Correlated to CARD I curriculum programs

The CARD Curriculum



The CARD Curriculum



By Emerging Age and Verbal Operant:

0-11 mos.

- Body Parts
- Following Instructions
- Gestures
- Making Requests
- People
- Sound Discrimination
- Verbal Imitation
- Yes/No

1:0 – 1:11 yrs.

- Actions
- Asking for Information
- Categories
- Choices
- Fast Mapping
- Functions
- Objects
- Opposites
- Prepositions
- Pronouns

2:0-2:11 yrs.

- Adverbs
- Attribute-Object
- Conditionality
- Deliver a Message
- Features
- Gender
- I Have/ISee
- Listen to/Tell a Story
- Locations
- Negation
- Plurals
- Recalling Events
- Sound Speed & Duration
- Syllable Segmentation
- Wh-Discrimination

3:0-3:11 yrs.

- Minimal Pairs
- Same/Different
- Sequences
- Sound Changes
- Statement-Statement

4:0-4:11 yrs.

- Describe by Category/Feature/Function
- Phonic Same/Different
- Statement-Question
- What Goes With

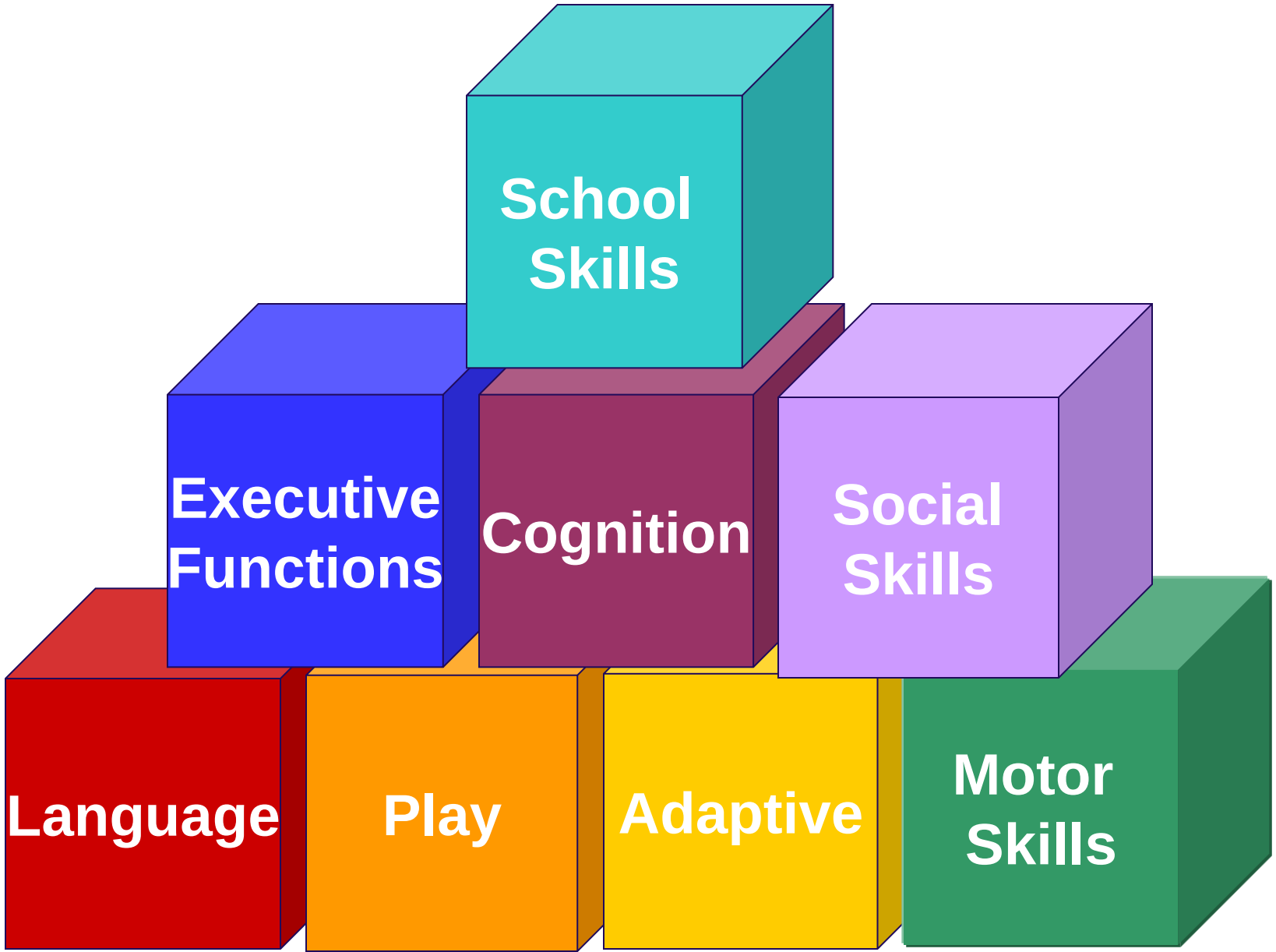
5:0-5:11 yrs.

- Observational Learning
- Syntax

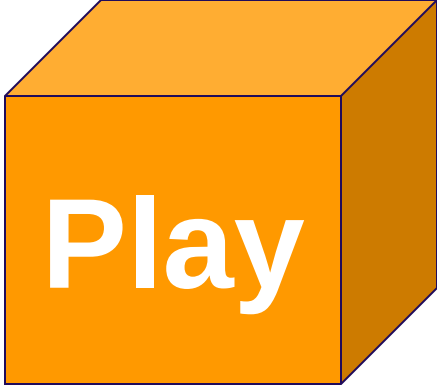
Language: Teaching so it's useful

Nonvocal Language

The CARD Curriculum



The CARD Curriculum

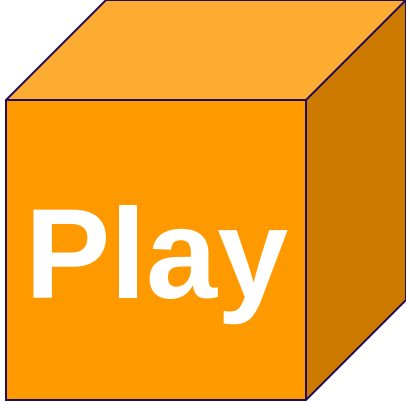


Features of a Comprehensive Play Skills Program

- ✓ ***Modeled after the development of play skills in typically developing children***
- ✓ ***Breaks down each type of play into its own systematic and comprehensive program***
- ✓ ***Sequential format***
- ✓ ***Programs may be used individually, concurrently, or cumulatively***

Play Curriculum

Domains



Sensorimotor Play
Task Completion Play
Initiating and Sustaining Play

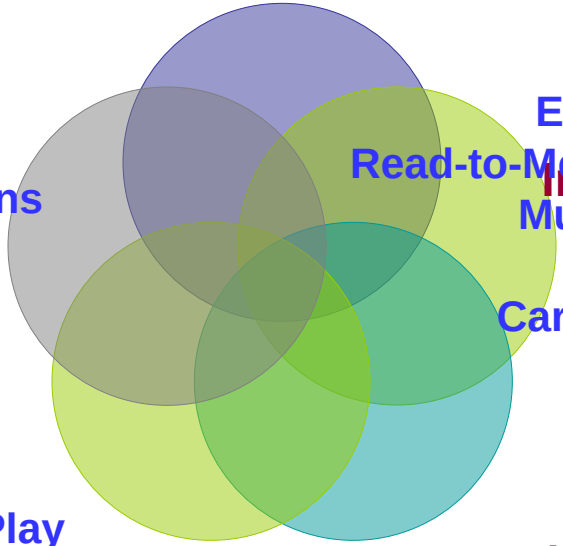
Beginning Play

Block Imitation
Structure Building
Sand and Water Constructions
Clay Constructions
Arts and Crafts

Constructive Play

Early Social Games
Read-to-Me Books & Nursery Rhym
Music and Movement
Treasure Hunt
Card and Board Games
Locomotor Play
Peer Play

Interactive Play



Audio and Video Play
Computer Play
Video Games

Electronic Play

Pretend Play

Functional Pretend Play
Symbolic Play
Imaginary Play
Sociodramatic Play

Parallel Play: Stay with Friends

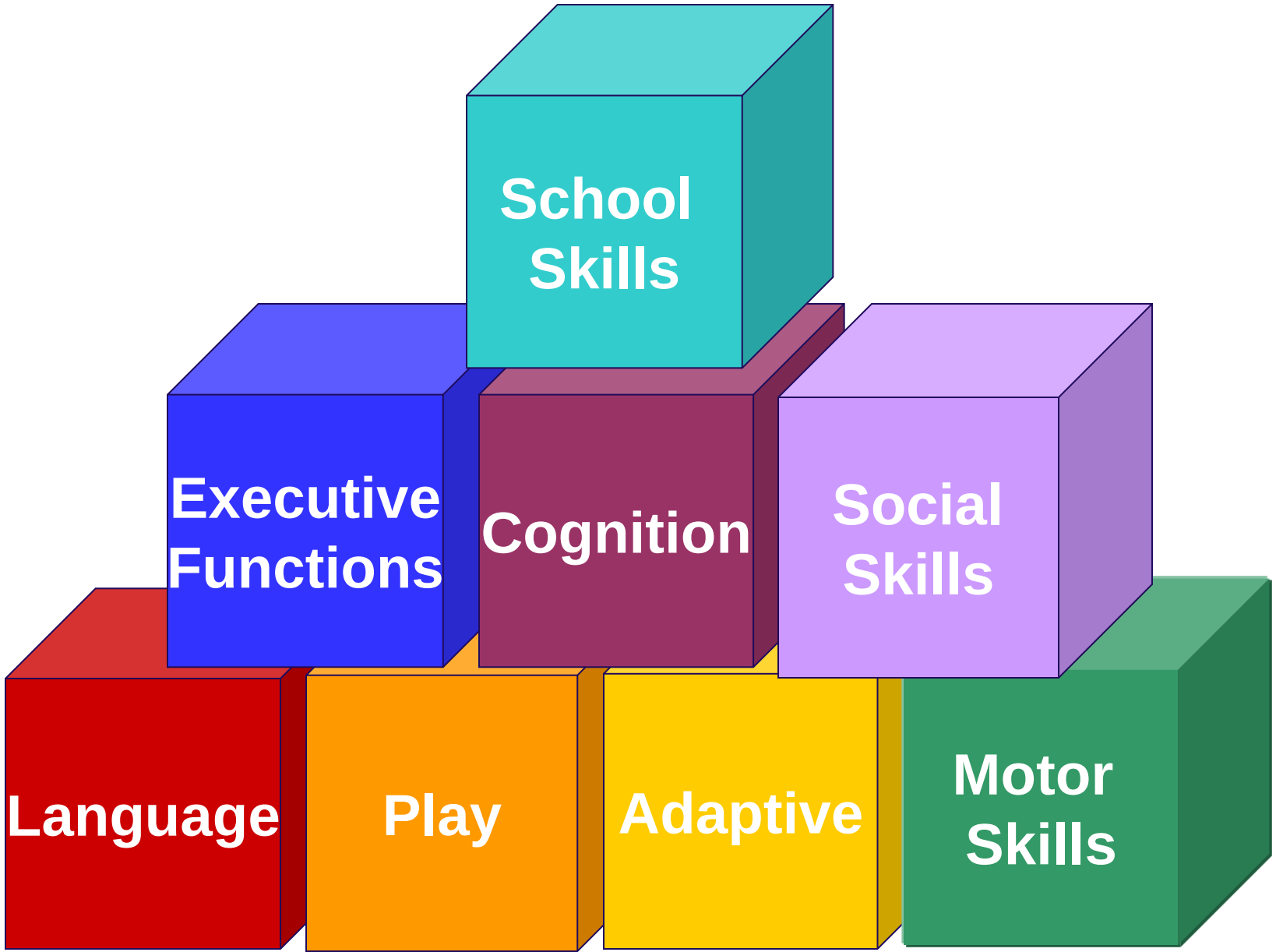
Sharing: Turn Taking

Onlooker Imitative Play

Associative Play: Response to peer

Self Regulation of Play

The CARD Curriculum



Adaptive Curriculum

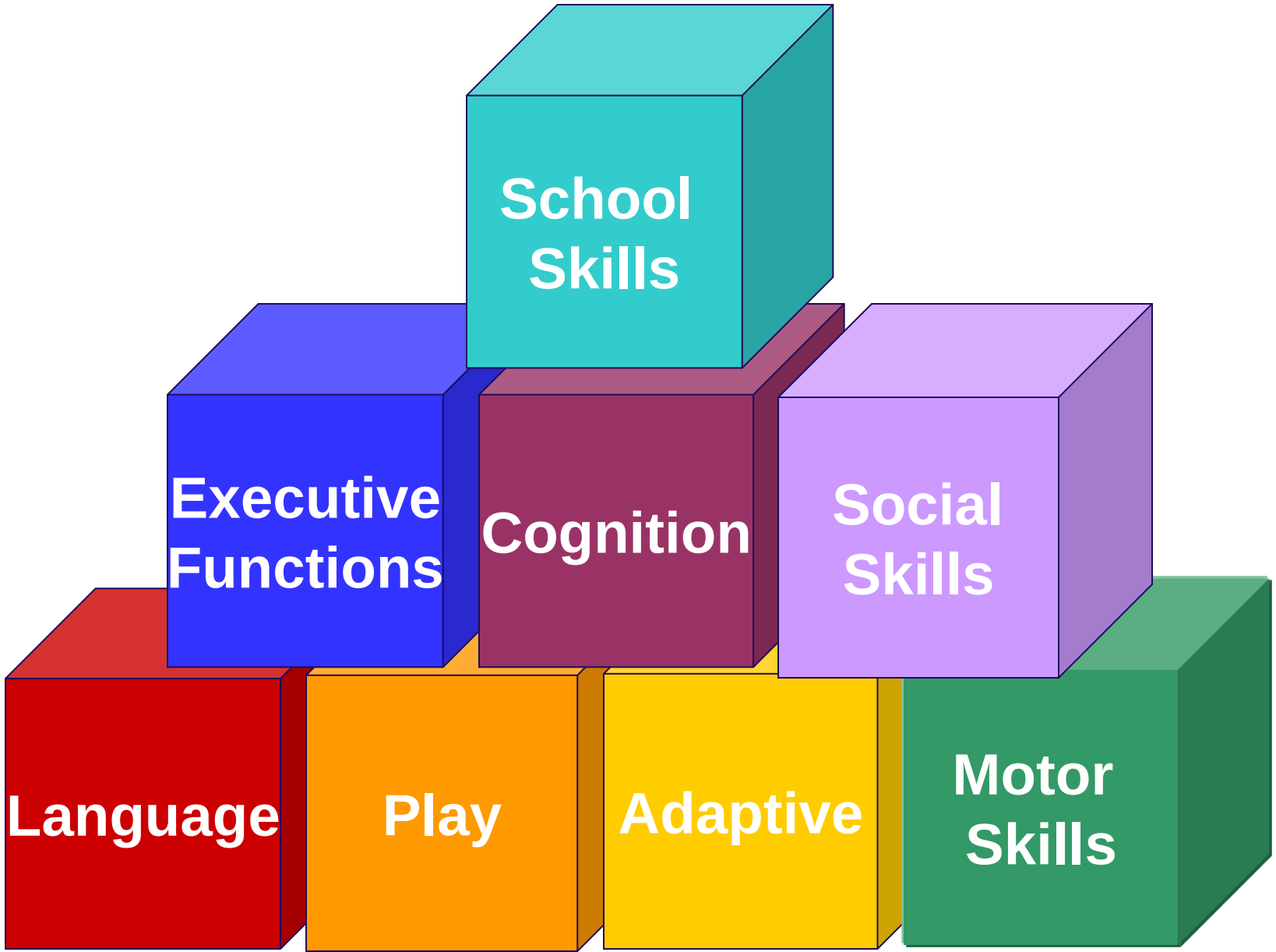
Personal
Feeding
Toileting
Undressing
Unfastening
Dressing
Preventing Spread of Germs
Bathing
Fastening
Teeth Care
Hair Care
Nail Care
Health Care

Domestic
Pet Care
Setting & Clearing Table
Telephone Skills
Tidying
Meal Preparation
Cleaning
Gardening
Laundry
School Backpack Prep
Making a Bed

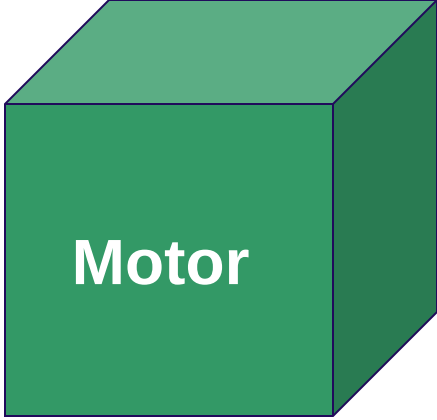
Safety
Safety Awareness
Safety Equipment

Community
Shopping
Restaurant Readiness

The CARD Curriculum



Motor Curriculum



Oral

Oral Motor

Visual

Ocular Motility
Binocular Vision Skills
Visual Perception

Fine

Hand Skills
Pre-Handwriting
Coloring
Drawing
Cutting with Scissors

Gross

Sitting
Standing
Walking
Running
Jumping
Hopping
Crawling / Creeping
Rolling Over
Stairs and Climbing
Balance Beam
Kicking
Catching
Riding Foot-Propelled Vehicles
Rolling / Throwing / Dribbling
Riding a Tricycle / Bicycle
Swinging a Bat / Racquet / Paddle
Physical Education Readiness

Visual Form Constancy

Motor

Match the picture on top with one of the four choices.

1.

A
B
C
D

2.

A
C
D

3.

A
B
C
D

4.

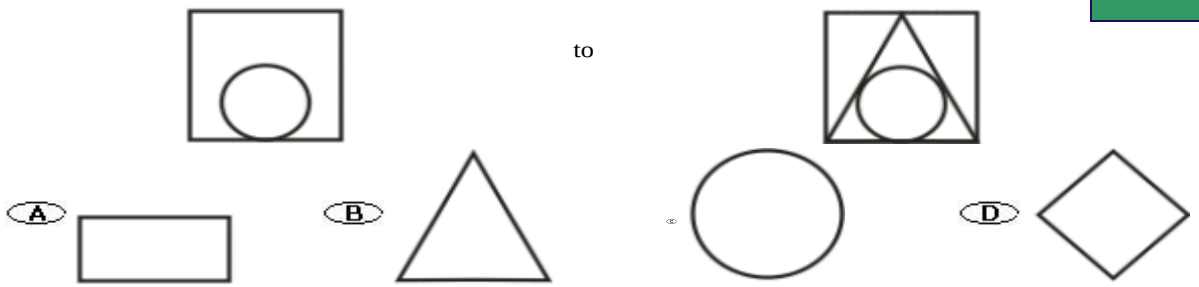
A
B
C
D

Visual Form Constancy

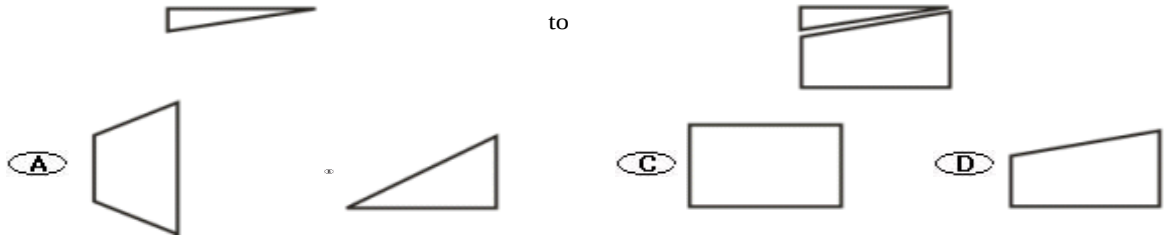
Motor

What is added to the first picture to make the second picture?

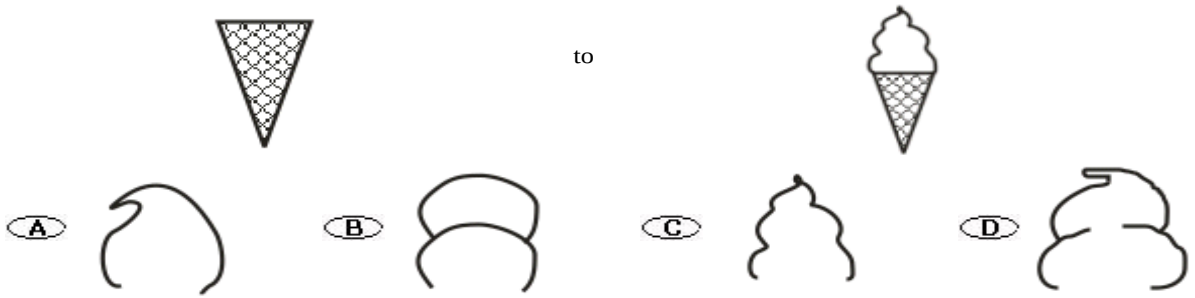
1. First Picture to Second Picture



2. First Picture to Second Picture



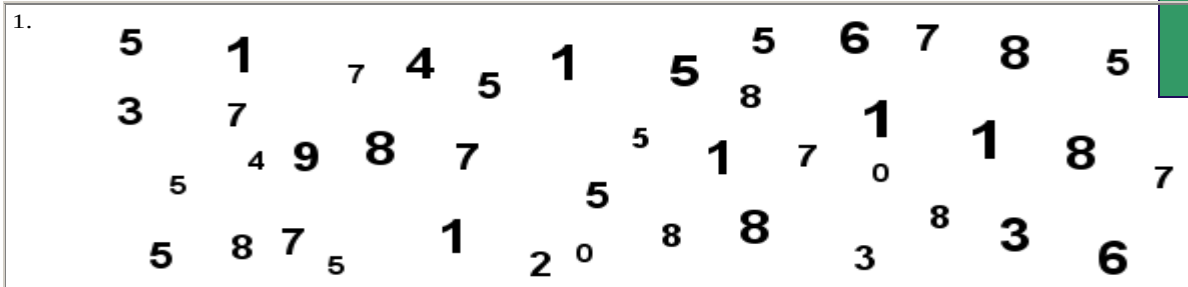
3. First Picture to Second Picture



Visual Figure-Ground Discrimination

Motor

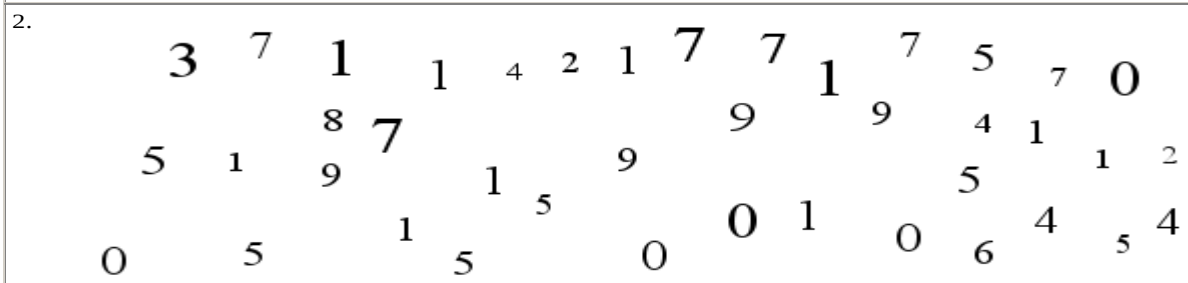
1.



How many times is the number **8** in the above picture?

A 10 times B 7 times C 8 times D 5 times

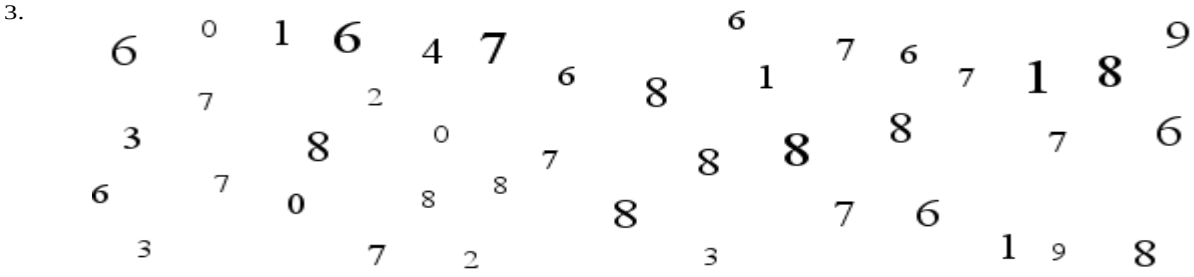
2.



How many times is the number **6** in the above picture?

A 10 times B 4 times C 5 times D 1 time

3.



How many times is the number **9** in the above picture?

A 9 times B 3 times C 15 times D 2 times

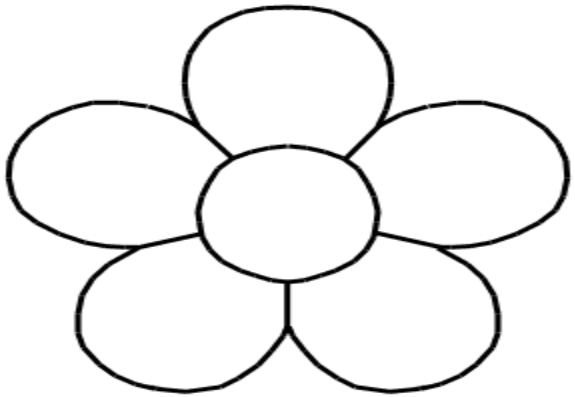
Visual Closure

Motor

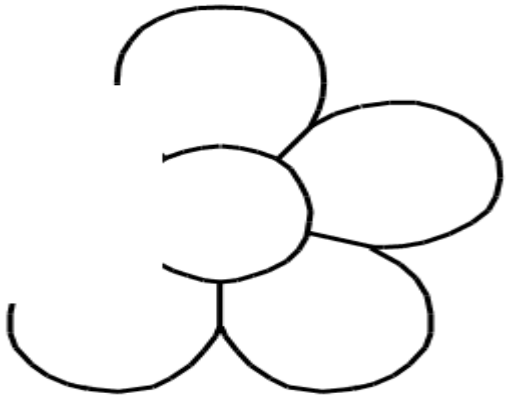
Draw the missing parts of the picture on the right. Color the picture on the left.

27.

Left

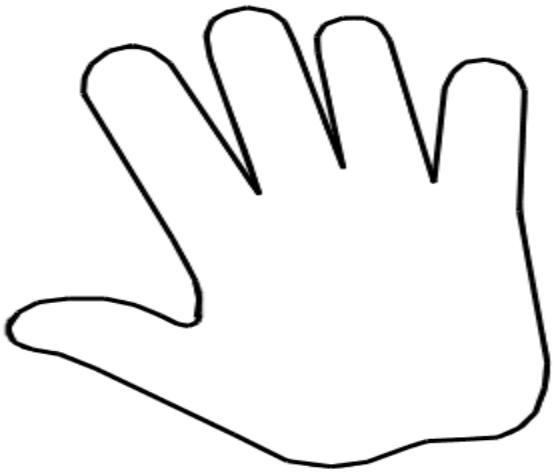


Right

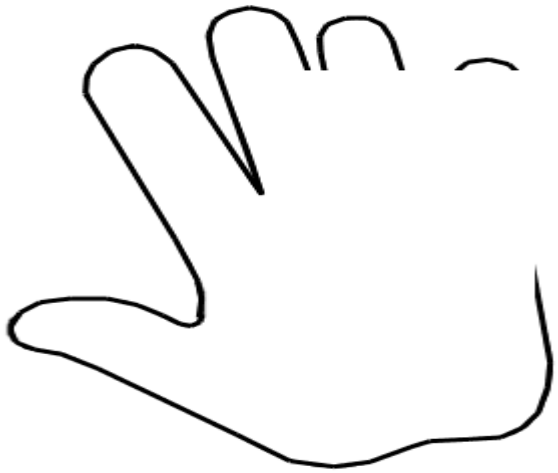


28.

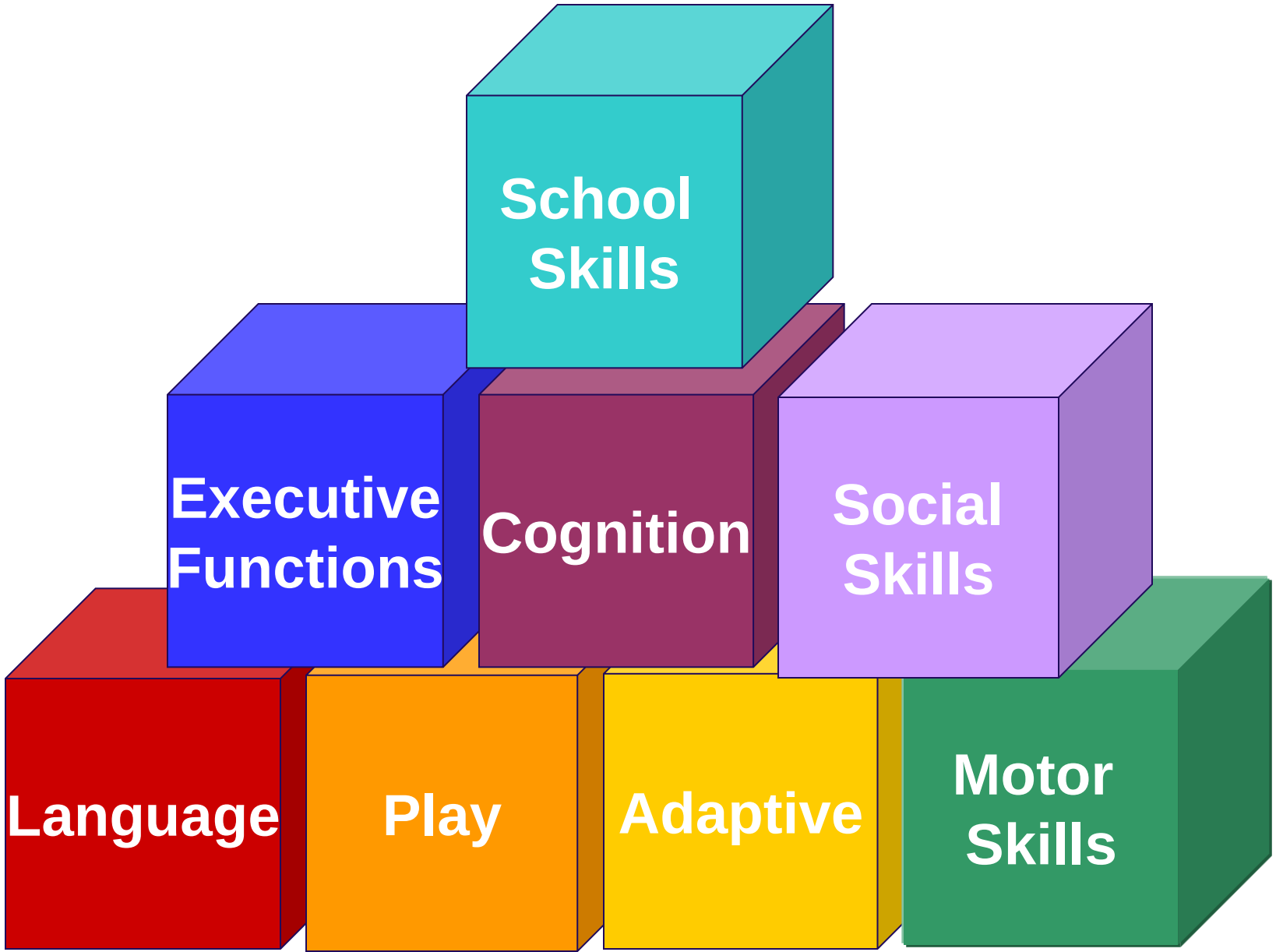
Left



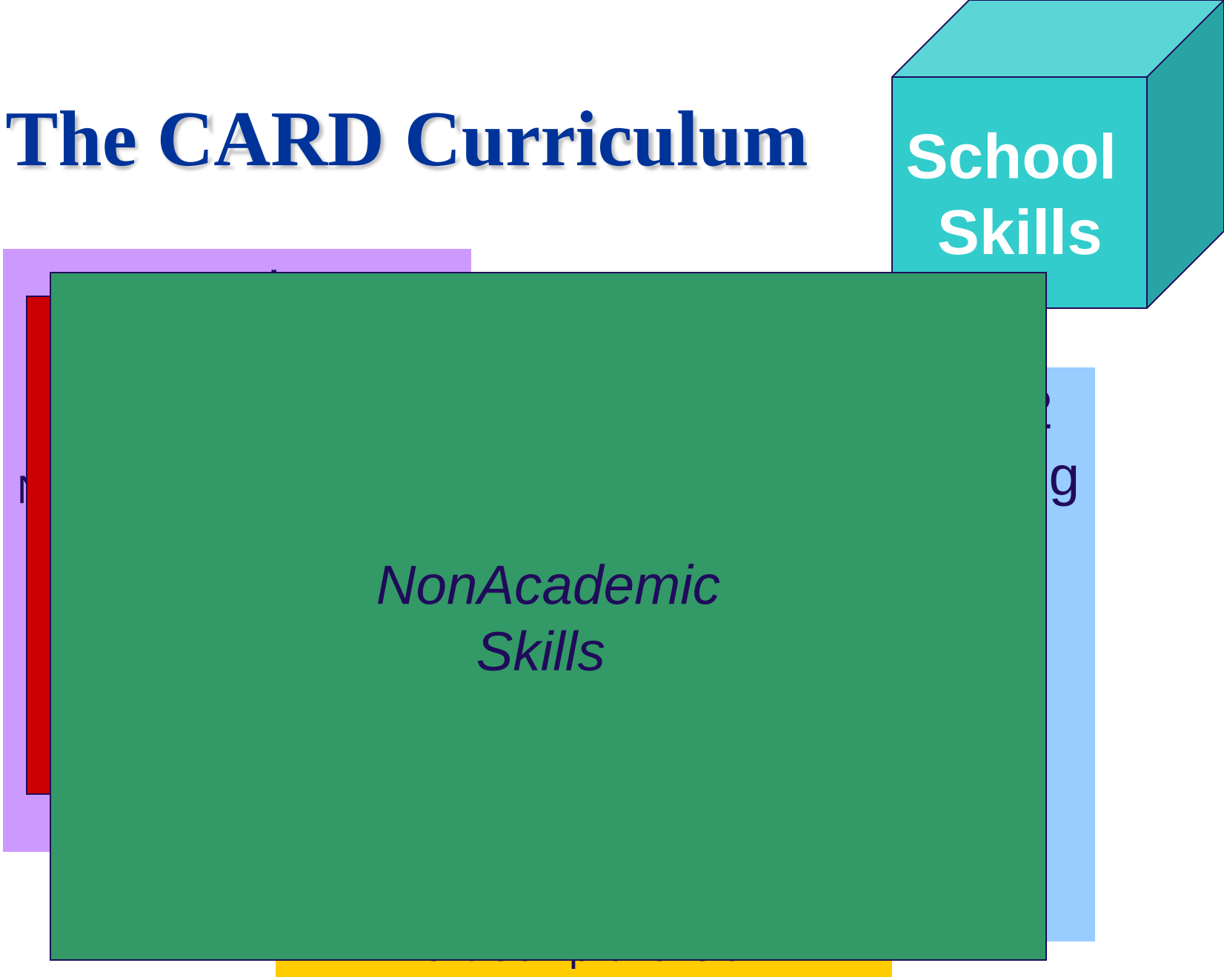
Right



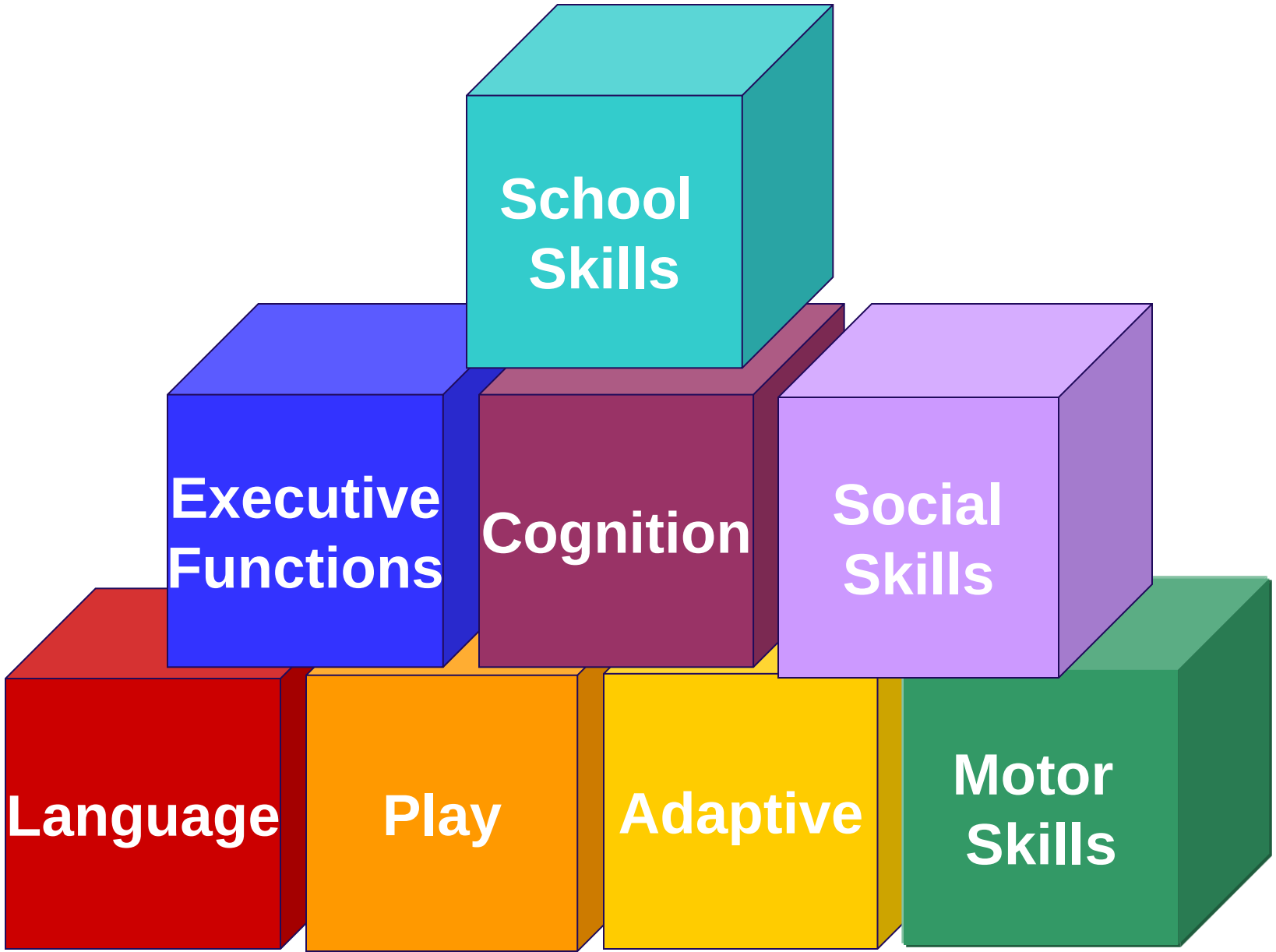
The CARD Curriculum



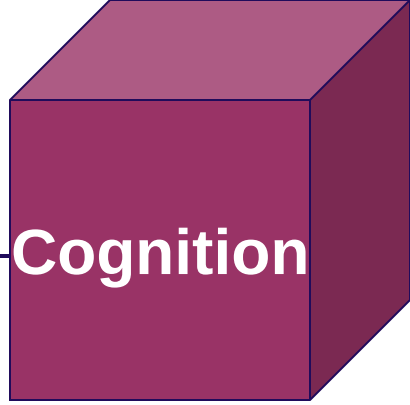
The CARD Curriculum



The CARD Curriculum



The CARD Curriculum



- ***Cognition:***
  - ***Meta-cognition: Identifying your own …***
  - ***Social Cognition: Inferring others'…***

Emotions

Thoughts

Knowledge

Desires

Beliefs

Intentions

Classic Test of Social Cognition

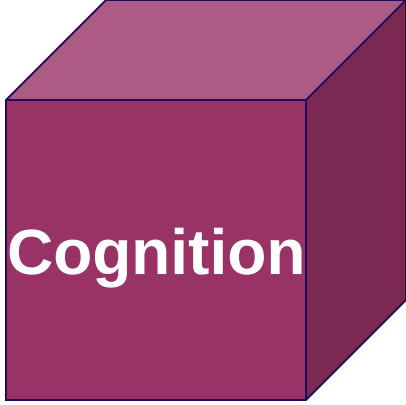
"Sally-Anne" or False-Belief Task

Cognition

Where will Sally look for her ball?

Where does she think her ball is?

"Typical" Meta and Social Cognitive Development



First few months: Sense of Self

9 months: Joint Attention / Social Referencing

15 months: Pretence

18 months: Desire / Intention

2 years: Emotion

3 years: Knowing / Thinking

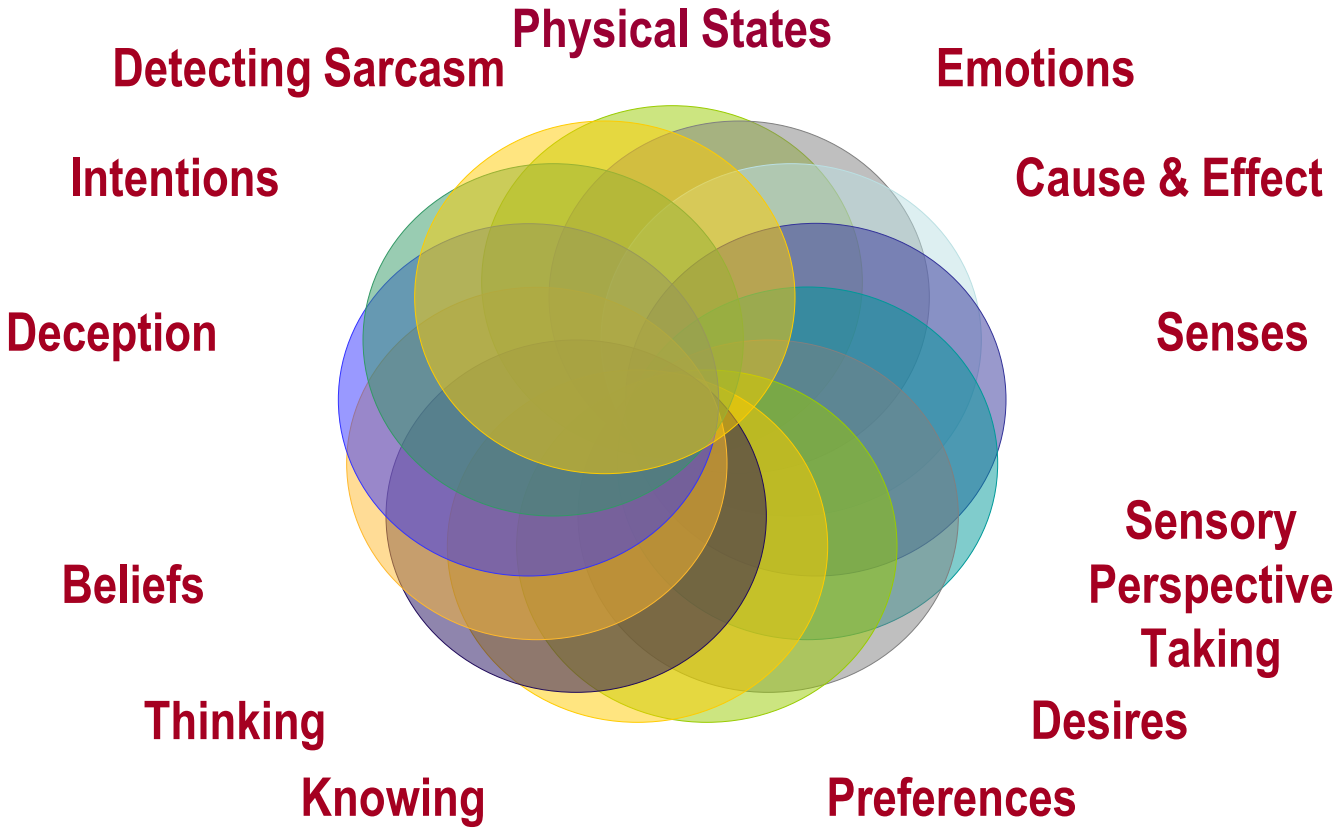
4 years: Belief / False-Belief

5 years: Intention – Accident vs. Purpose

Cognition Curriculum

Cognition

13 Lessons



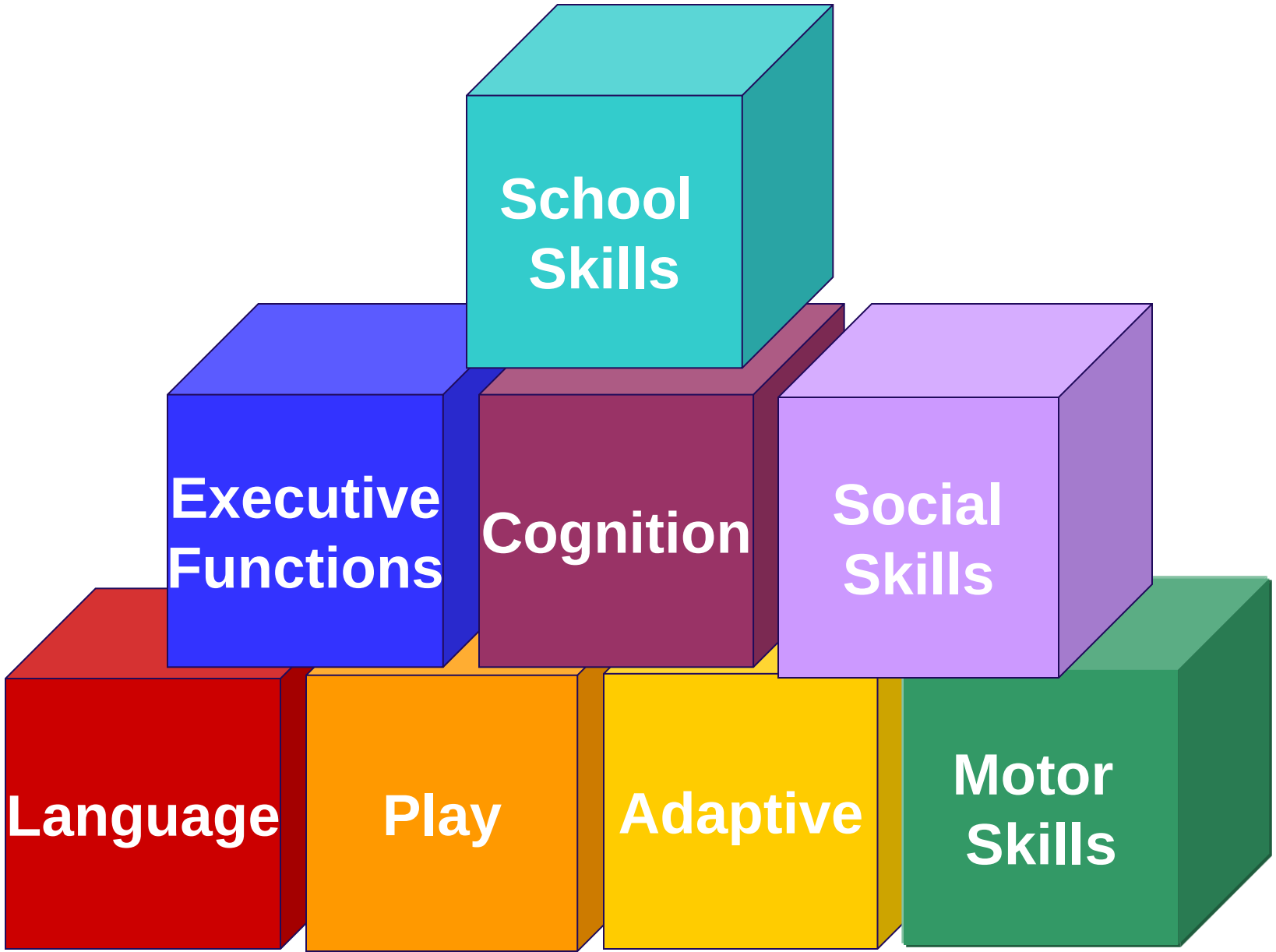
Senses: Blindfold Task

Deception: White Lies

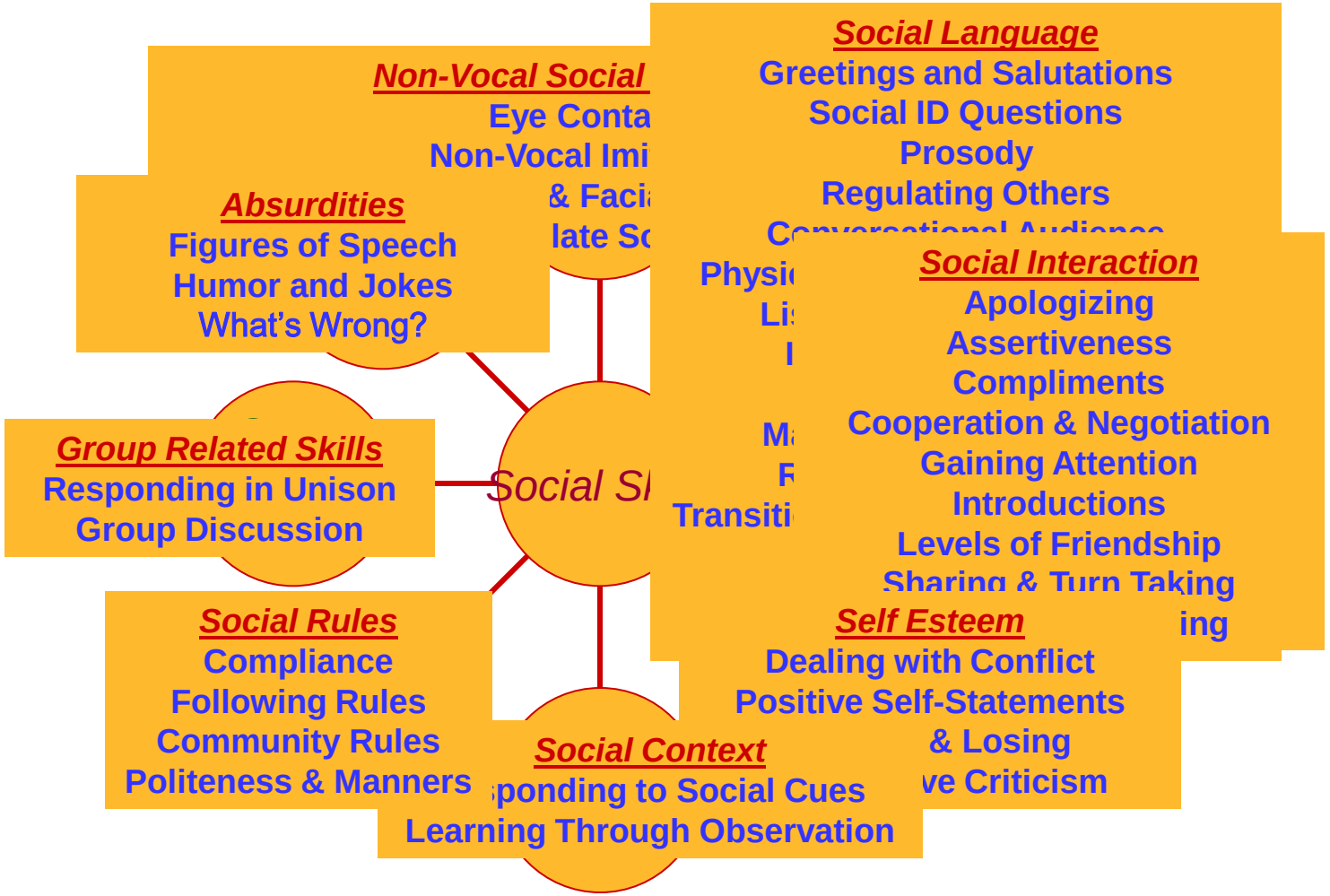
Deception: Caught Lying

Deception to Knowing

The CARD Curriculum



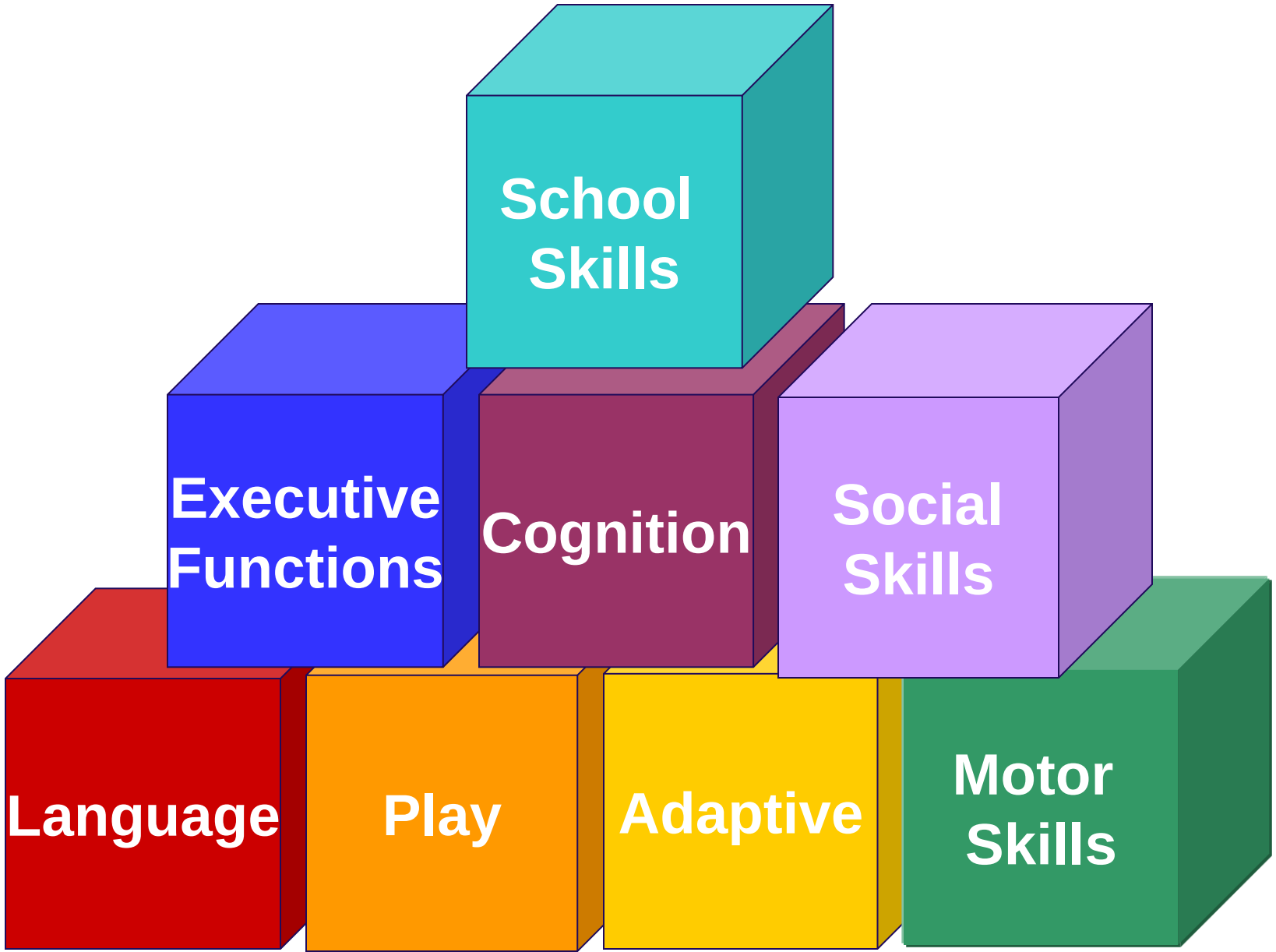
Social Skills Curriculum



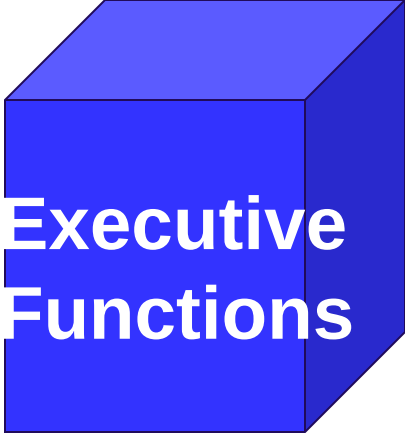
Responding to Social Cues

Absurdities: Jokes

The CARD Curriculum



The CARD Curriculum



What is Executive Function?

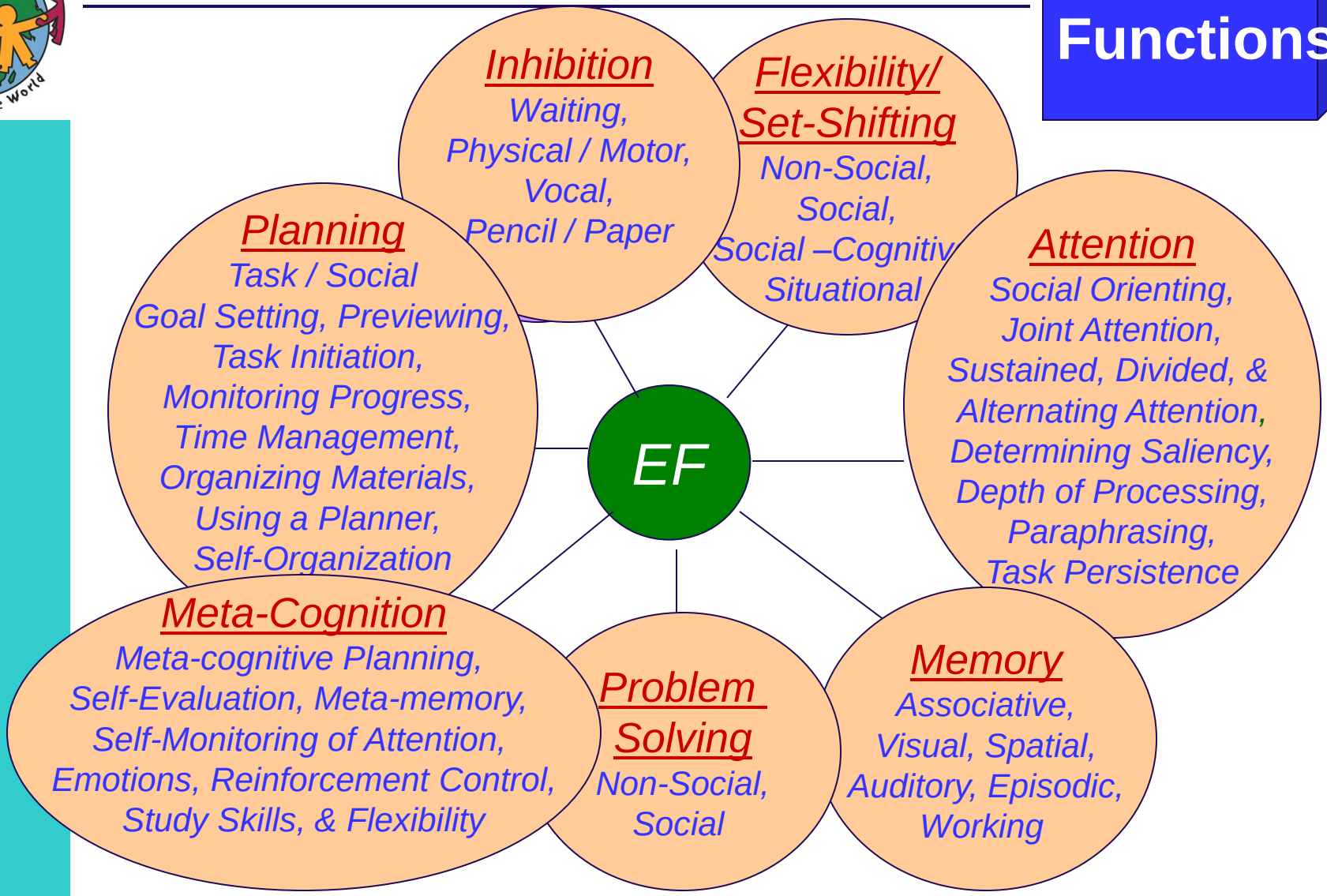
- *Process that underlies goal directed behavior*

Goal Directed Behavior Involves…

- *Visualizing situation*
- *Identifying desired objective*
- *Determining plan to meet objective*
- *Monitoring progress to goal*
- *Inhibiting distractions*

Executive Functions Curriculum

Executive Functions



Problem Solving: clarification

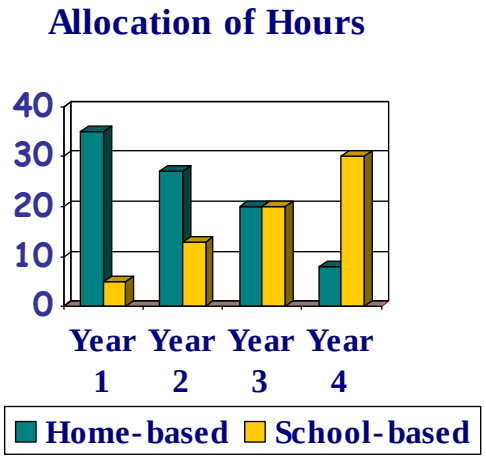
Problem Solving

Summary

- A good ABA program requires good assessment to determine exactly what your child needs to learn!
- A good ABA program needs a lot of hours!
- Don’t do 5 hours of ABA when 40 hours are recommended! This is like taking 5 mgs of a drug that has shown to be effective at 40 mgs! It wont work!

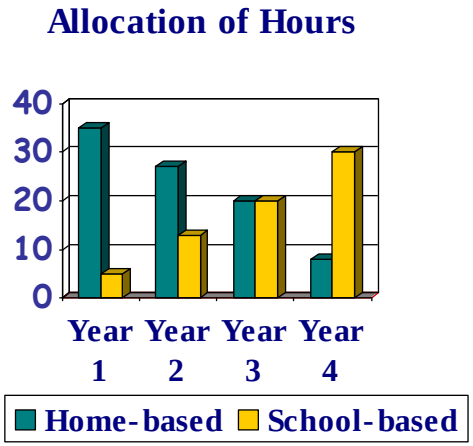
A 4 year progression

- Year 1:
  - Child entering at age 2-3
  - 25 hours per week building to 40 hours
  - Emphasis on
    - Building a relationship with child
    - Replacing challenging behaviors with functional communication
      - Mands (Requests)
      - Tacts (labels)
    - Receptive identification (objects, actions, body parts, colors, shapes)
    - Receptive instructions
    - Verbal and Non-verbal Imitation
    - Identical Matching
    - Play Skills (toy play)
    - Adaptive Skills (toilet training)
    - Fine and Gross Motor
    - Dietary restrictions/medical compliance



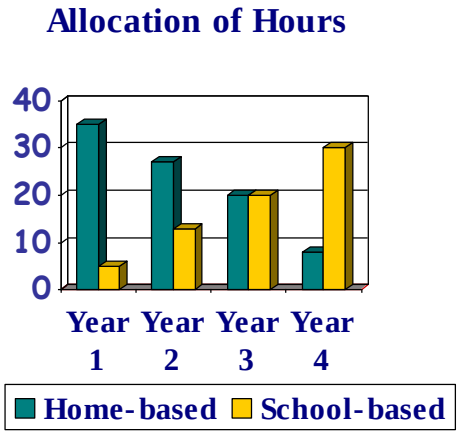
A 4 year progression

- Year 2:
  - Child age 3-4
  - 40 hours (in home with partial transition to school)
  - Emphasis on
    - Building Expressive Language
      - Objects, Actions, Attributes, Prepositions, Pronouns
      - Categories, Functions, Occupations, Locations
    - Beginning Conversation
      - Intraverbals
      - Reciprocal Statements
      - Asking Questions
    - Developing Observational Learning
      - I See
      - Sequences
      - Tell me about/Describe
    - Emotion Recognition
    - Inferring others desires
    - Play Skills (functional pretend, symbolic, imaginary)
    - Adaptive Skills (dressing, grooming, feeding)
    - Fine and Gross Motor
    - Sharing and Turn taking
    - Attention (dual and divided)



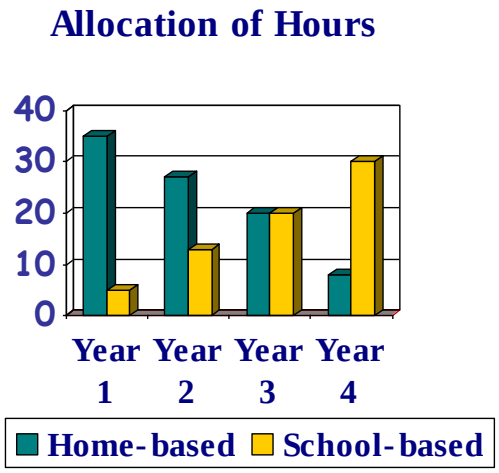
A 4 year progression

- Year 3:
  - Child age 4-5
  - 40 hours (20 hours at home; 20 hours at school)
  - Sample Programs
    - Advanced Language Concepts
      - Pragmatic Language
      - Maintaining Conversation (topic initiation, repair, maintenance)
    - Meta and Social Cognition
      - Identifying and Managing own emotions
      - Understanding other's Perspectives, Knowledge and Beliefs
      - Inferences
    - Executive Function
      - Attention Saliency
      - Flexibility with Routines
      - Inhibition and Self Monitoring
      - Planning
    - Social Skills
      - Levels of Friendship
      - Recognizing Social Cues
    - Problem Solving
    - Play Skills (peer play dates)
    - Adaptive Skills
    - Fine and Gross Motor



A 4 year progression

- Year 4:
  - Child age 5-6
  - 40 hours (10 hours at home; 30 hours in school and fading services)
  - Emphasis on
    - Teacher and Parent training
    - School Skills
      - Listening and Reading comprehension
      - Math and Problem Solving
    - Advanced Social Skills
      - Detecting Sarcasm
      - Understanding Deception
      - Group Skills
    - Continued Self Regulation
      - Self Esteem and Confidence
      - Task and Social Planning



MONTANA SENATE BILL 234- BRANDON'S BILL

How the Autism Insurance Mandate Will Affect Your Coverage for ABA Therapy

Please Note

- The following material is for informational purposes ONLY and is not meant to be construed as legal advice. You must check with your insurance company or legal consultant for verification of specific benefits that may be available to you under your insurance plan.

Facts about Senate Bill 234

- Requires coverage for the diagnosis, assessment and treatment of Autism Spectrum Disorders:

  Autism, Asperger's and

  Pervasive Developmental Disorder (PDD-NOS)

- Affected plans must cover costs for diagnosis and screenings as well as medically necessary Behavioral Therapy, including:

  Applied Behavior Analysis (ABA)

- For ABA therapy, speech therapy and occupational therapy, affected plans must cover at least **$50,000/year** from birth through 8 and at least **$20,000/year** from age 9 through age 18.

Facts about Senate Bill 234

- Covered behavioral therapy must be prescribed by a licensed physician or licensed psychologist, meaning they have to say that the services are medically necessary to treat the child's condition.
- Behavioral Therapy coverage is required if medically necessary and provided or supervised by a Board Certified Behavior Analyst or a provider who is certified by the department of public health and human services as a family support specialist with an autism endorsement.
- Became Effective on January 1, 2010…. So at this point all plans that are required to comply with SB234 should include the coverage.
- Plans cannot add special visit limits, dollar limits or increased copayments based solely on an ASD diagnosis.
- Insurance Carriers can require providers to submit treatment plans for prior approval of services (usually every 3-6 months).

Facts about Senate Bill 234

- The law applies all health insurance plans issued in the state of Montana other than the exceptions listed below.

- The law does NOT apply to the following types of medical plans so they are NOT required to provide coverage:
  - **Self-Funded ERISA plans (usually larger employer groups who fund their own claims), unless the employer is a Montana city, town, state, school district/university or other political state entity.**
  - **Plans issued/underwritten in a state other than Montana but….28 other states also have a mandate so if your plan is issued by one of those states you may have coverage.**
  - **Federal employee programs**

Self-Funded Companies That Have Added Coverage for ABA Therapy

Some Larger Employer plans have decided to add benefits after administrators received input from employees about how much the benefits are needed. Just because they don't "have to" pay for ABA under state law, doesn't mean they can't or won't.

-Adobe Systems Inc.
-AOL
-Arnold & Porter
-Aspect Software
-Capital One Financial Corp.
-CISCO
-City of Atlanta
-Deloitte
-Eli Lilly
-Google
-Greenbille Hospital System
-Halliburton
-Home Depot
-Intel
-Lexington Medical Center
-Mayo Clinic
-McAfee
-Michelin
-Microsoft
-Morrison and Foerster
-NVidia
-Ohio State University
-Oracle
-Progressive Group
-State Farm
-Symantec
-Time Warner, Inc. (not Time Warner Cable)
-University of Minnesota
-Wells Fargo
-Yahoo Inc.

Also, the Department of Defense has had a $36,000 per year benefit for over three years now that applies to all active duty military families. The tide is turning!!

What's going on in the rest of the country?

While carriers in many states still exclude coverage for ABA Therapy, there are now 29 states that have passed laws mandating coverage for behavioral therapies including ABA.

-Arizona
-Arkansas
-California
-Colorado
-Connecticut
-Florida
-Illinois
-Indiana

-Iowa
-Kansas

-Kentucky
-Louisiana
-Maine
-Massachusetts
-Missouri
-Montana
-Nevada
-New Hampshire

-New Jersey
-New Mexico

-New York
-Pennsylvania
-Rhode Island
-SouthCarolina
-Texas
-Vermont
-Virginia
-West Virginia

-Wisconsin

What's going on in the rest of the country?

We live in Montana – why might the 28 other states matter to you???

- If your plan is issued by an insurance company that is subject to the mandates mentioned for any of these states…..you may have coverage now!!!!
- Check your ID card to see if there is any indication that your plan is issued through a company licensed in one of these states.
- Check with your HR department or your insurance carrier if you are not sure.

Helpful Web-sites

- TACA-Talk About Curing Autism Now
  http://www.talkaboutcuringautism.org/resources/autism-insurance/insurance-coverage-for-biomedical-traditional-treatments.htm

- Autism Votes/Autism Speaks
  http://www.autismvotes.org/site

- United Health Care Children's Fund -UHCCF
  (a grant that can cover insurance co-payments for children up to age 16)
  http://www.uhccf.org/