

ABA & ASD: Adulthood Begins in Preschool

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Educational Partnership
for Instructing Children

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Disclaimer

Unpaid Affiliations

Dr. Gerhardt has an association with the following programs or organizations but receives no compensation for that association. None of the information contained in this presentation is relevant to those associations



Paid Affiliations

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Presentation Notes

In this workshop we hope to avoid using the terms “high functioning” or “low functioning” to describe where someone falls on the autism spectrum. The reason is that these terms often just describe someone’s degree of vocal verbal behavior rather than any actual level of functioning. So instead “high verbal” or “low verbal” will be used, which I think are more accurate.

A primary challenge in presenting a workshop on the subject of ABA-based intervention leading to adulthood is the complexity of the topic and the diversity of the autism spectrum. As such, and not surprisingly, individualization of both assessment and intervention is essential.

At different points throughout this workshop

- You will be asked to break up into group to address a specific question or challenge.
 - While there may be a few incorrect responses to the question/challenge, there will be no single correct answer.
 - This process is intended to generate novel, behavior analytic approaches to current intervention challenges, or identify potential new intervention challenges (e.g., How best to train young women on ASD to complete a gynecological exam.) on the horizon.
 - The collected results will be distributed to workshop participants within 10-days following the convention.



Educational Partnership
for Instructing Children

The EPIC School is a private, nonprofit ABA-Based School for 32 individuals with classic autism ages 3-21 years. The Behavior Analytic Mission of the EPIC School is, through individualized evidence-based intervention, graduate students who:

1. Are employed a minimum of 20-hours/week
2. Belong to a social community outside of his or her home
3. Contribute, on a regular basis, to family functioning (e.g., can complete chores).
4. Have a functional and effective communication system
5. Are independent in basic self-care skills
6. Can self-manage their own behavior across multiple environments, and
7. Have a reasonable medical transition plan.

The problem is...

I am not entirely sure how we are going to do this. However, as a behavior analyst who is committed to socially significant outcomes, I don't see where we have any other option. I do, at least, have a good idea how promote better adult outcomes than the current adult outcome research would indicate is standard.





Why This Workshop?



When the classroom closes...

Most
Professional's
Understanding
of Transition to
Adulthood

That is because...

- Behavior analysts are trained in the effective application of behavior analytic principles to increase or decrease behavior. Unfortunately, we are not trained in identifying which behaviors, beyond the most obvious, to target for increase or decrease. The problem is, teaching the wrong skills effectively is no better than teaching the right skills poorly. Neither results in any significant outcome for the student/client.

Both special educators and behavior analyst may have over-specialized their professions

- In spite of the importance of early transition planning, most professionals interpret "early" to mean just prior to age 16-years which is not really early. In addition, absent a long-term view of transition planning, parents tend to make intervention choices that, while well intended, have little relationship to future outcomes. (Gothberg, Stegenga, & Cate, 2017)
- Quality [*behavior analytic*] intervention should not adhere to just one set of static procedures (e.g., DTT, VB, PRT). Instead behavior analysts need to be proficient in the implementation of a wide variety of interventions all of which are based upon the principles and process of ABA (Leaf, et al, 2015)

Gothberg, J., Stegenga, S.A., & Cate, D. (2017) Rethinking the paradigm. In A.L. Ellis (Ed.) *Transitioning Children with Disabilities*, pp 129-144. New Milford, CT: Sense Publishers.

Leaf, J.B., et al. (2016). Applied behavior analysis is a science and, therefore, progressive. *Journal of Autism and Developmental Disorders*, 46, 720-731.

Post-21 Outcomes

After analyzing data from the NLTS-2, Roux and colleagues reported **“young adults with autism have a difficult time following high school for almost any outcome you choose - working, continuing school, living independently, socializing and participating in the community, and staying healthy and safe.** To complicate matters, many of these youth begin their journey into adulthood by stepping off a services cliff. Access to needed supports and services drops off dramatically after high school – with too many having no help at.” Roux, et al, 2015, p. 8

What did young adults with autism do after high school?



Our Post-21 Research-Base

Shattuck, et al, (2012) conducted a comprehensive literature review regarding original research on services and interventions aimed at supporting success in work, education, independence, and social participation among adults aged 18 and older with an ASD published between 2000 and 2010.



They concluded that the evidence base about services for adults with an **ASD is underdeveloped and can be considered a field of inquiry that is relatively unformed.**

Shattuck, P., et al, (2012). Services for adults with autism spectrum disorders. *Canadian Journal of Psychiatry*, 57, 284-291.

A composite illustration of three mythological figures. On the left is Thor, depicted with a long red beard, wearing a winged golden helmet and holding a hammer. In the center is Zeus, an older man with long white hair and a beard, wearing a laurel wreath. On the right is Isis, wearing a golden headdress with a crescent moon and a star, and a blue and yellow striped shawl. The background is a soft, hazy blue and pink. The text "Behavioral Mythologies" is overlaid in the center in a white serif font.

Behavioral Mythologies

Myths about ABA Some Behavior Analysts May Accept as Fact and Impede Intervention

Preference assessments are generally not necessary as I know what is a reinforcing and what is not for a specific individual.

The environment in which I work is always capable of supporting appropriate behavior.

If my student/client looks at me when displaying a specific challenging behavior then the behavior is maintained by attention.

Absence of generalization (or maintenance) is either a characteristic of ASD or the fault of the individual's parents and there is nothing I can do about it.

Interventions based upon the principles of Applied Behavior Analysis are only effective when implemented in a highly controlled environment.

Myths about
ABA Some
Behavior
Analysts May
Accept as
Fact and
Impede
Intervention

There is research documenting verbal prompts as being harder to fade than other prompts.

There is a clear and accepted definition of “precursor behavior” in the ABA literature.

There is research documenting the importance of distractor trials in DDT.

Prompts always need to be faded for a person to be considered independent.

Single subject research is widely accepted as proof of ABA's effectiveness

Myths about
ABA Some
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Analysts May
Accept as Fact
and Impede
Intervention

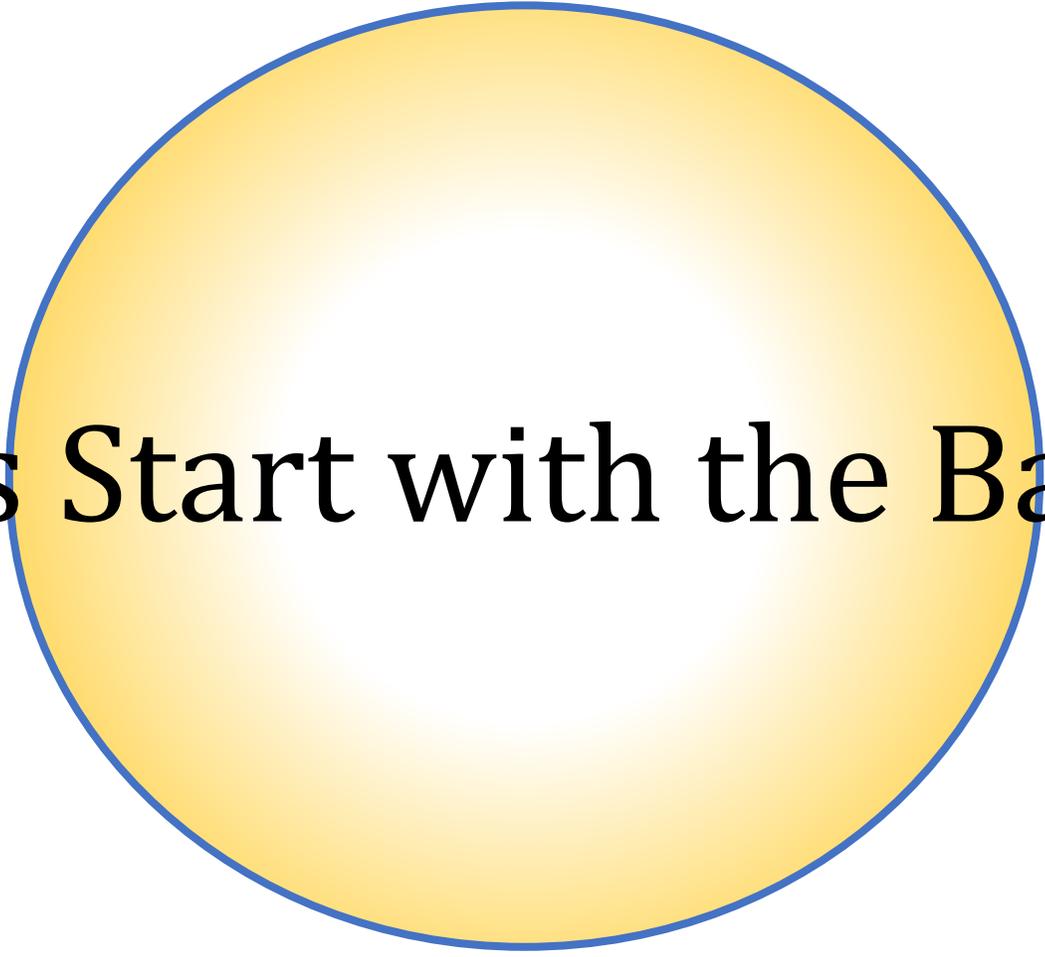
I can gain little from reading the ABA research outside of ASD intervention.

I can gain little from reading the ASD research outside of ABA.

I have my BCBA so I really don't need to read or follow the research any longer. I can gain little from reading the ASD research outside of ABA.

Intensity of intervention (i.e., opportunity to respond”) is only relevant to EIBI.

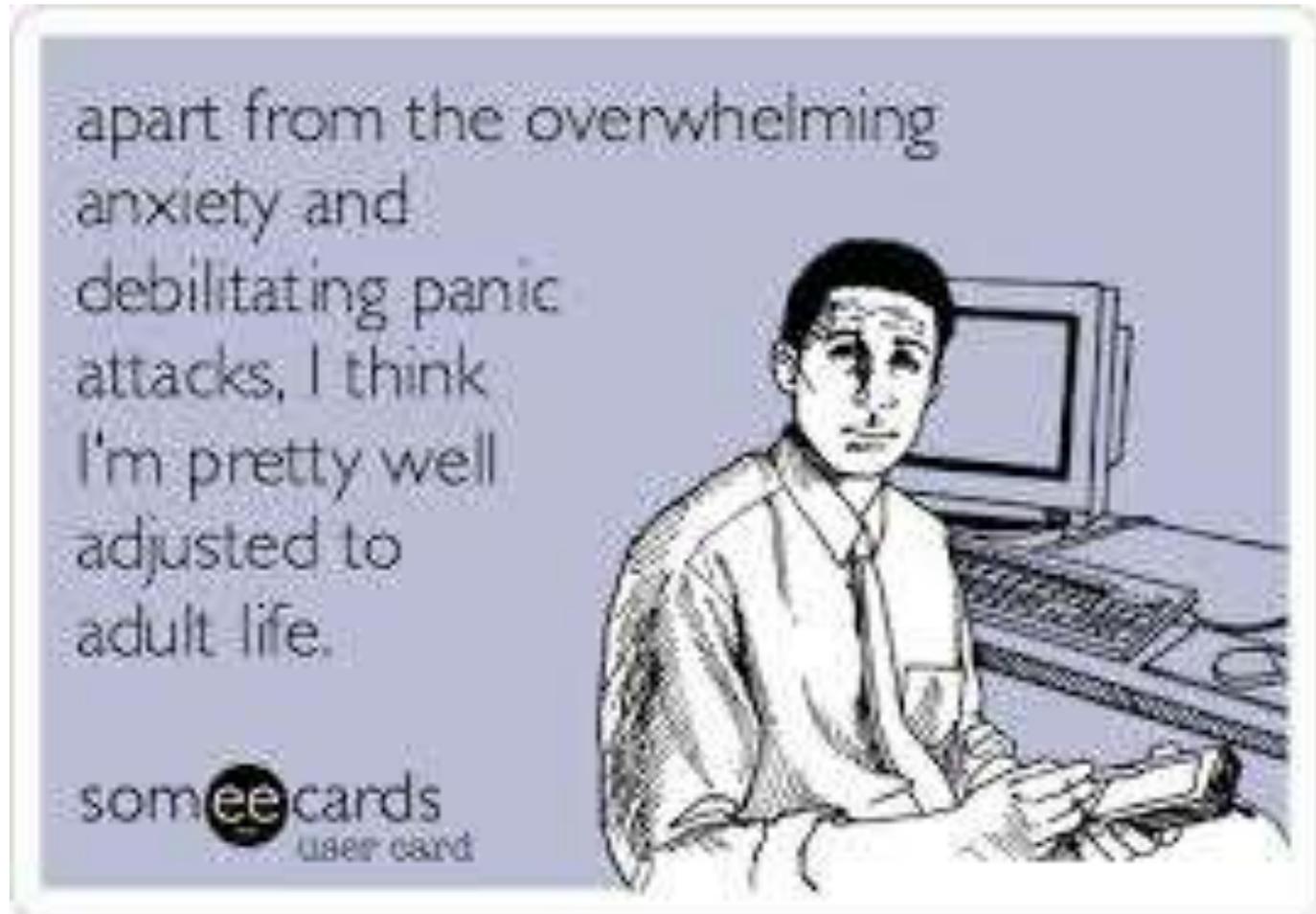
As the only evidence-based intervention in ASD out there, we don't have to work cooperatively with other disciplines.



Let's Start with the Basics

The goal of effective ABA intervention in ASD is the acquisition of skills necessary to live and work in the community with proper supports.

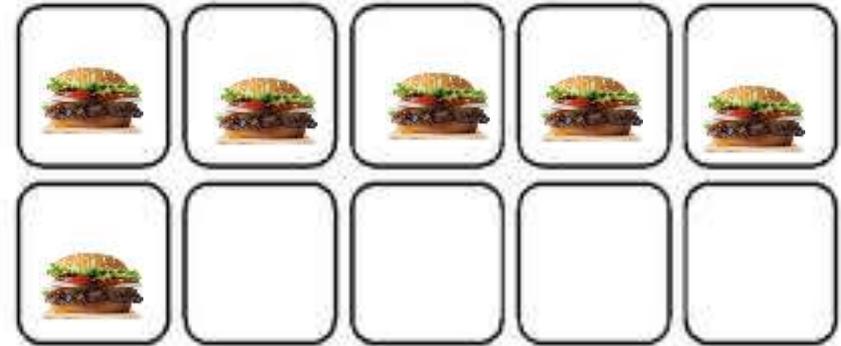
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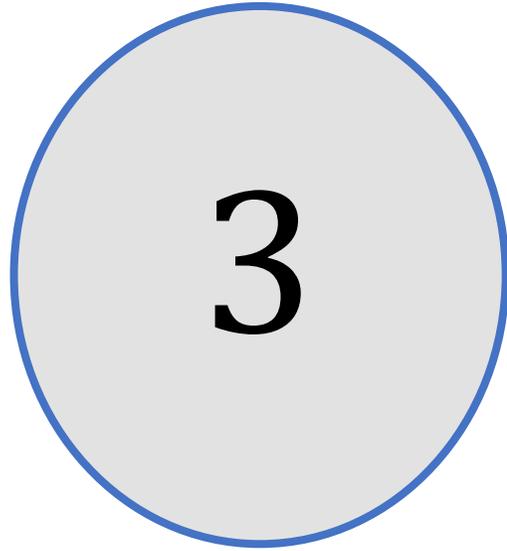


2

Nobody should have to
earn the right to be
provided community-
based intervention.

I am working for:





None of this is easy.

(If it were, we wouldn't be here today.)

TWO
STEPS
FORWARD
ONE
STEP
BACK
IS
STILL
FORWARD
PROGRESS.



My single most important
epiphany over the past 38-
years

I am a **behavior analyst** who happens to work with individuals with autism AND an **autism professional** who happens to be a behavior analyst AND an **educator** who works to understand autism and behavior analysis AND a **community advocate** for my students and clients AND....

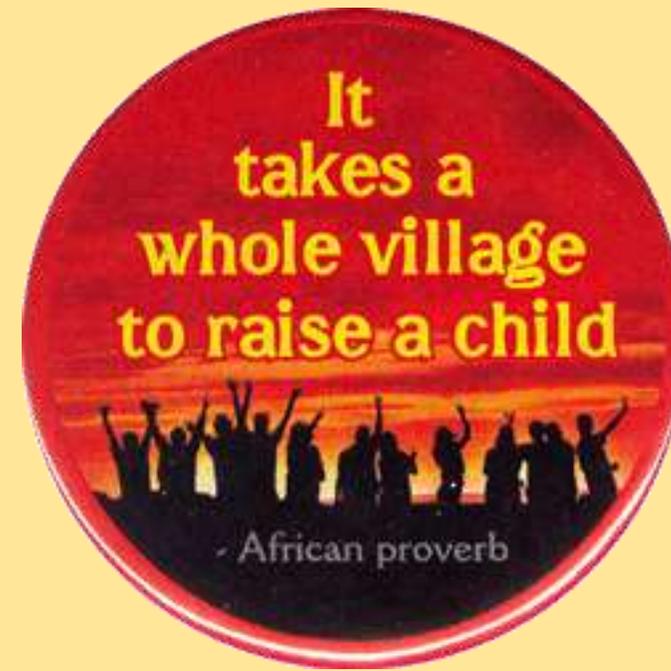


This is important because

If you work with young kids you get to be a specialist. Whether you're a special educator, speech pathologist, occupational therapist, or board certified behavior analyst, you get to be a specialist.

When working with adolescents and young adults you don't get to be a specialist and, instead, need to be something of a generalist. In other words, you need a good working knowledge of ABA, positive behavior support, Government services and resources, mental health concerns, medication side effects, sexuality, menstrual care, job development, job coaching, community-based instruction, generalized systems of communication, staff training, community training, and that's just to start.

And I am a community advocate because if...



Then will take that village plus 2 small towns, a mid-sized city, a chapter of the Hells Angels, three communes, an international coalition, an on-call medical team, 7 lawyers, 4 government officials, a fleet of vehicles and, well, alcohol to raise a child with ASD to a preferred, positive, included and safe adulthood. Unfortunately, none of this just happens on its own.

My point is this:
No one can do this on
their own and, if you
believe you can, I have
a bridge in Brooklyn
you might be interested
in purchasing.

"You can do
what I cannot
do. I can do
what you
cannot do.
Together we can
do great
things."

- *Mother Teresa*

If, as a behavior analyst, you want a working definition of transition to adulthood that remains true to your behavior analytic ethics we need to turn to the 7 Dimensions (Baer, Wolf & Risley, 1968)

ABA is a methodology, guided by the seven dimensions, rather than a particular teaching procedure or intervention.

someecards
user card



The 7 Dimensions of ABA

- ✓ **Applied:** Deal with problems of social importance.
- ✓ **Behavioral:** Deal with measurable behavior or reports if they can be validated.
- ✓ **Analytic:** Require an objective demonstration that the procedures caused the effect.
- ✓ **Technological:** Are described well enough that they can be implemented by anyone with training and resources

Baer, D.M., Wolf, M.M., & Risley, T.R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1, 91-97.

The 7 Dimensions of ABA

- ✓ **Conceptual Systems:** Arise from a specific and identifiable theoretical base rather than being a set of packages or tricks.
- ✓ **Effective:** Produce strong, socially important effects.
- ✓ **Generality:** Designed from the outset to operate in new environments and continue after the formal treatments have ended.

Baer, D.M., Wolf, M.M., & Risley, T.R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1, 91-97.

Of the *7 Dimensions* it seems that the most challenging dimensions are also the most relevant to transition. These are:

- ❑ **Applied:** Deal with problems of social importance.
- ❑ **Effective:** Produce strong, socially important effects.
- ❑ **Generality:** Designed from the outset to operate in new environments and continue after the formal treatments have ended.

Which then leads us to:

*The effective transition from EIBI to Adulthood requires Behavior Analysts to **address** problems of social importance, in ways that produce strong, socially important effects, by using interventions designed from the outset to operate in new environments and continue after the formal treatments have ended.*



But this is, of course, not easy and the reason we are all here today



Before we move on, there are a few more details about ABA-based intervention in ASD we need to discuss.

Evidence-based intervention
versus
Evidence-based practice

Evidence-based Intervention, or more accurately, empirically validated intervention, refers to those treatments or interventions that have attained a recognized standard of research validation.



Evidence-based Practice, on the other hand, refers to the ability of the practitioner to appropriately utilize evidence-based interventions with a specific client, in a specific context to achieve a specific outcome.

Best Research Evidence

- Scientific evidence that meets particular standards, reliably yields positive results, and is survive a rigorous peer review process. In addition, scientifically based practices are validated by means of accepted research designs and methodologies.

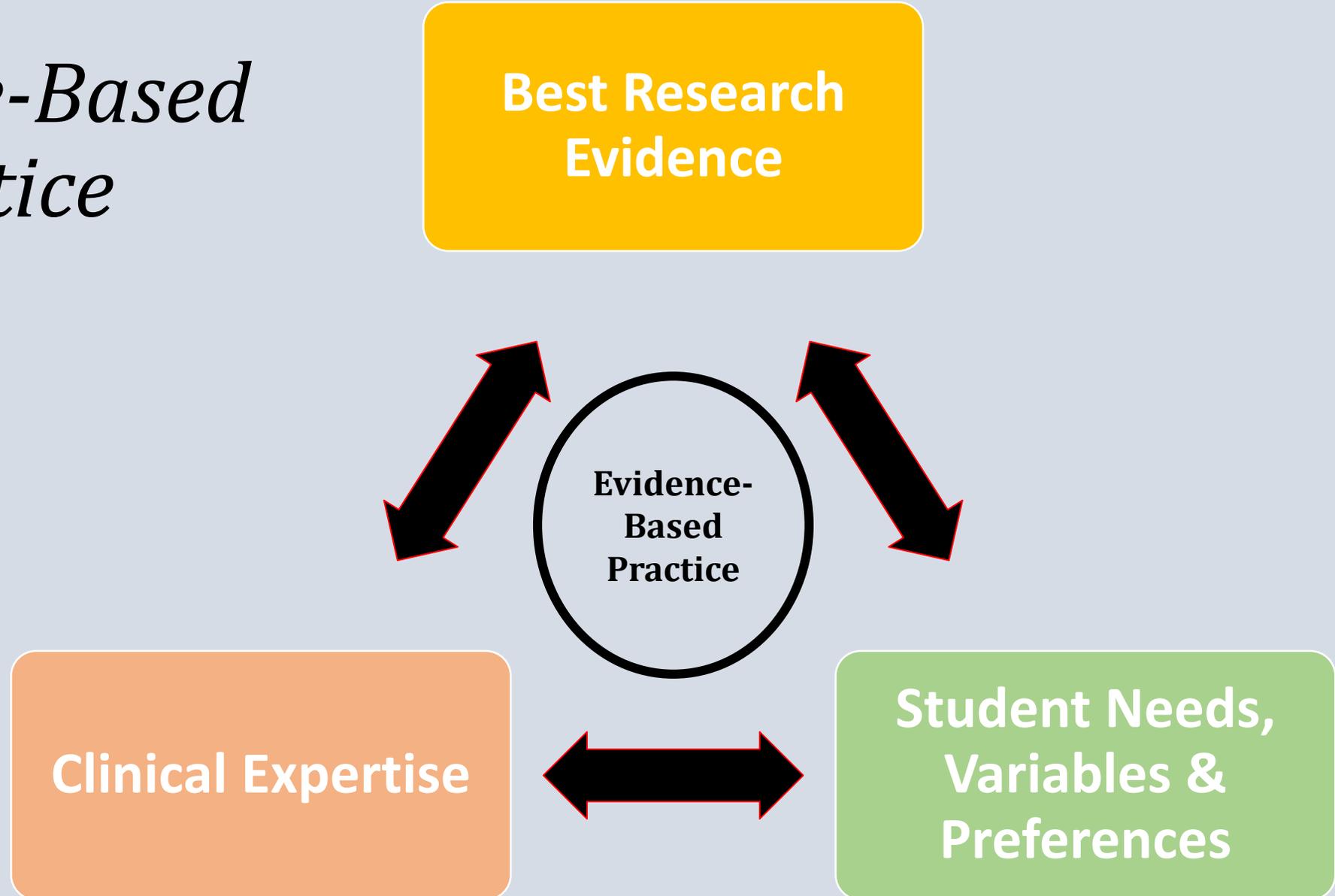
Clinical Expertise

- Clinical expertise refers to the interaction between the Behavior Analyst's accumulated experience, relevant education, clinical competence, and understanding of current research.

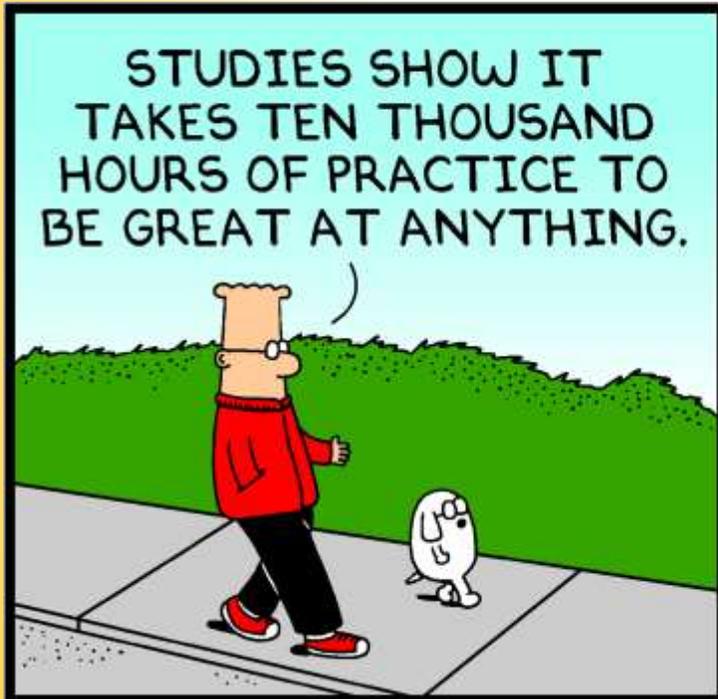
Student Needs, Variables & Preferences

- Age, gender, learning history, skill repertoire, preferences, identified reinforcers, situations or stimuli student finds aversive, family support/consent, resource availability, etc.

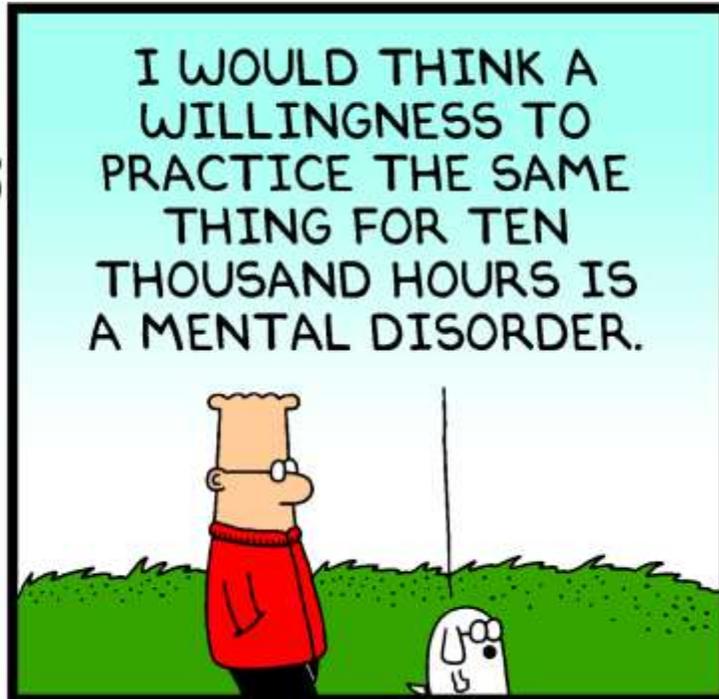
Evidence-Based Practice



So to practice in an evidence-based manner requires knowledge, time, effort, error, and practice. Even then, it can be elusive.



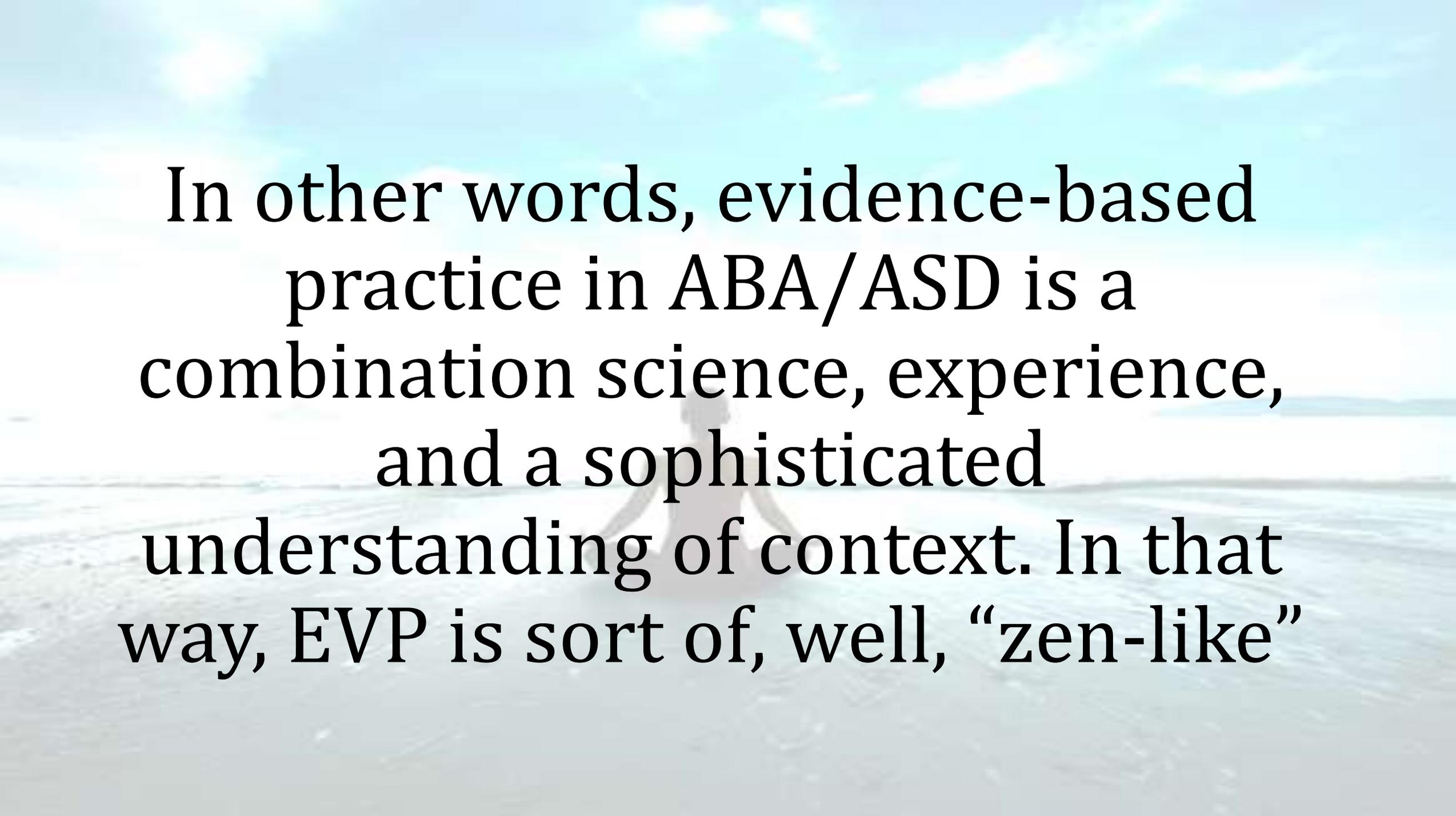
Dilbert.com DilbertCartoonist@gmail.com



2-7-13 ©2013 Scott Adams, Inc./Dist. by Universal Uclick



Please note that evidence-based Practice in ABA & ASD does not require the development of a set of rigid, unyielding, and unalterable instructions governing interactions. In fact, evidence-based practice in ABA & ASD often requires one to modify interventions in response to a slew of conditions, settings and contingencies while maintaining a commitment to data-based decision-making.

A person is walking on a sandy beach towards the ocean. The sky is a mix of light blue and white, suggesting a bright but slightly hazy day. The water is calm with gentle ripples. The overall scene is peaceful and serene.

In other words, evidence-based practice in ABA/ASD is a combination science, experience, and a sophisticated understanding of context. In that way, EVP is sort of, well, “zen-like”

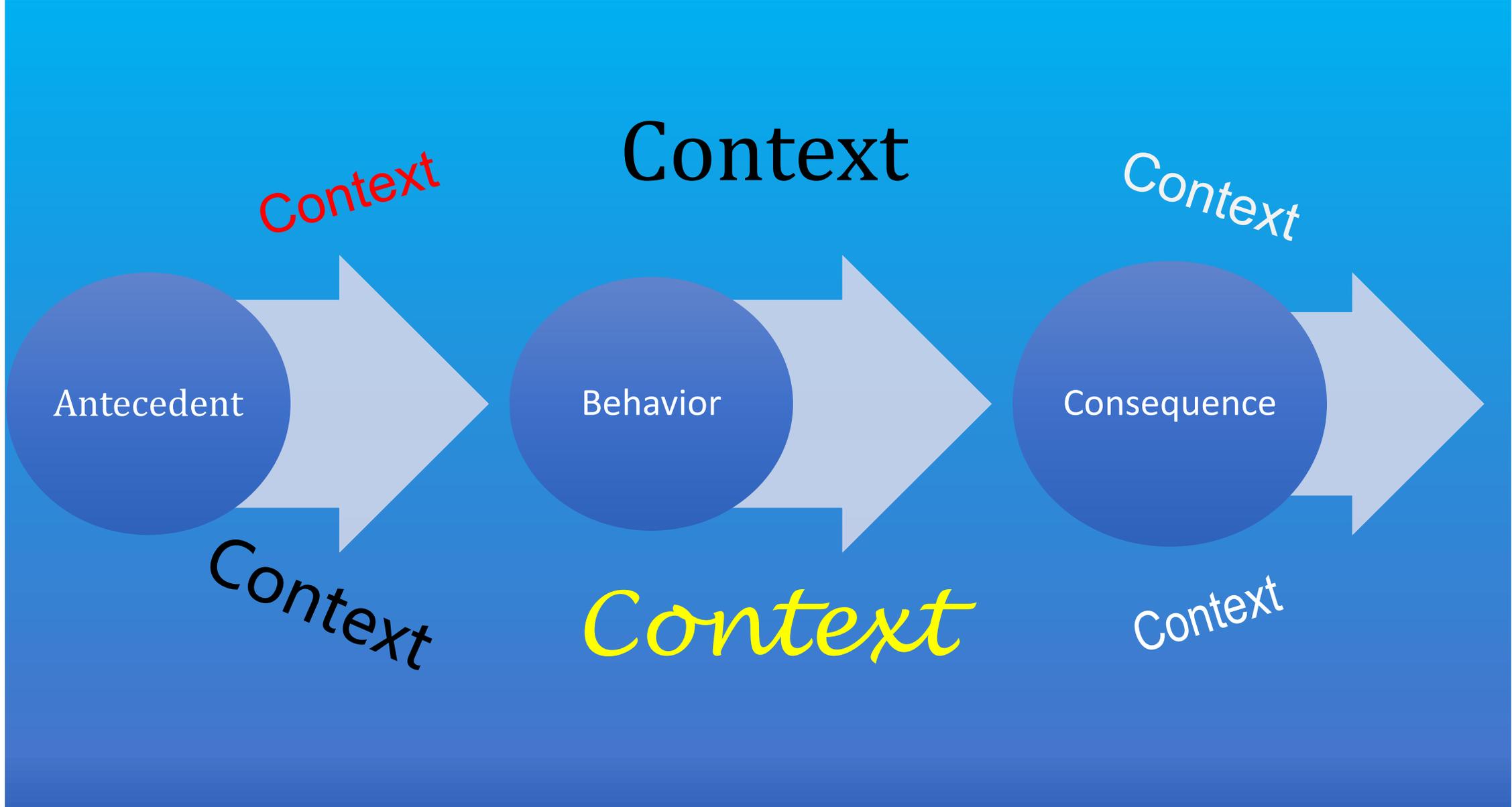
“When done correctly, there is not a field of intervention that is more person centered than applied behavior analysis”

*Gina Green, Ph.D., BCBA-D
Personal Communication*

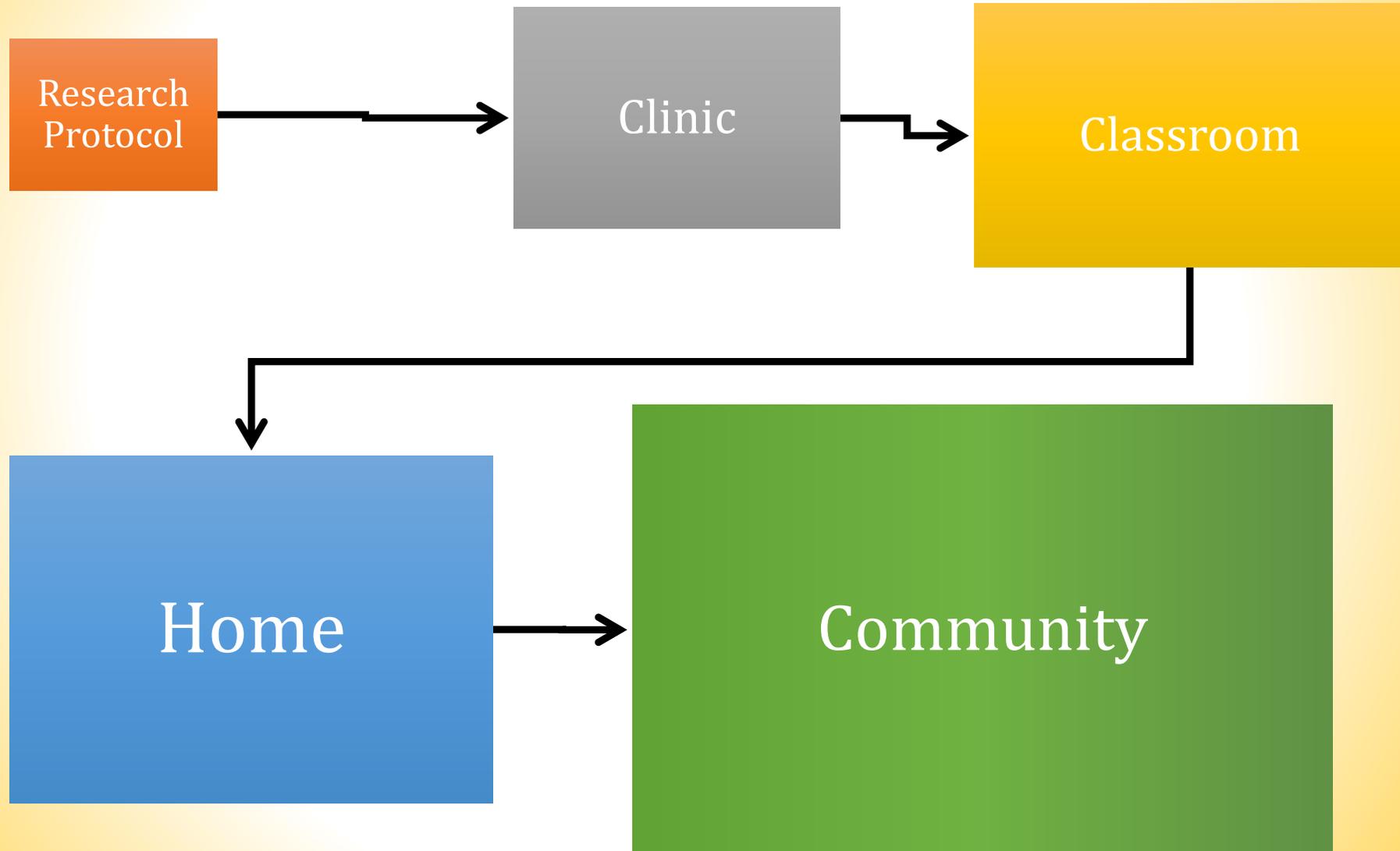


Next is Context





Least to Most Complex Implementation Environments



Intervention in the most well controlled environment possible...

- Is something for which behavior analysts working in ASD have, apparently, been strongly reinforced for quite some time.
- This is a well established pattern of behavior for which there seems to be little opportunity to reinforce alternative patterns of behavior or, for that matter, a reinforcer with sufficient power to alter this pattern.
- It also seems ABA & ASD is, among behavior analytic fields of intervention, somewhat alone in this pattern.

- Applied Animal Behavior
- **Autism**
- Behavior Analysis and Selectionist Robotics
- Behavior Analysis and Technology
- Behavior Analysis and the Arts
- Behavior Analysis for Sustainable Societies
- Behavior Analysis in Military and Veterans' Issues
- Behavior Analyst Online
- Behavioral Development
- Behavioral Gerontology
- Behavioral Medicine
- Behaviorists for Social Responsibility
- Crime, Delinquency, and Forensic Behavior Analysis
- **Direct Instruction????**
- Dissemination of Behavior Analysis
- Ethics and Behavior Analysis

- Experimental Analysis of Human Behavior
- Gambling
- Health, Sport, and Fitness
- History of Behavior Analysis
- Multicultural SIG: Multicultural Alliance of Behavior Analysts
- Neuroscience
- Organizational Behavior Management Network
- **Pediatric Feeding Disorders????**
- Positive Behavior Support
- Practitioner Issues in Behavior Analysis
- Rehabilitation and Independent Living
- Sexual Behavior: Research and Practice
- SIG Español
- Speech Pathology
- **Standard Celeration Society????**
- Teaching Behavior Analysis
- Theoretical, Philosophical, and Conceptual Issues
- **Verbal Behavior????**

“Behavior analysts often emphasize the need to study the effects of ABA procedures in the context of typical practice settings (e.g., Johnston, 1996). However, reviews indicate that the large majority of our research focuses on interventions delivered by study personnel, usually in tightly controlled environments such as laboratories, specialized ABA classrooms, or distraction-free areas set up to provide one-to-one instruction []. This discrepancy may reflect a dilemma that behavior analysts have had trouble resolving: We recognize that conducting studies in practice settings may require sacrificing some scientific rigor because the primary mission of such settings is to deliver services rather than conduct research (Johnston, 1996), yet we regard the quality of many studies in these settings as unacceptable (Johnston et al., 2006).” (Smith, 2013)

Citations from previous slide

Johnston J. M. Distinguishing between applied research & practice. *The Behavior Analyst*.19, 35–47.

Johnston J. M., Foxx R. M., Jacobson J. W., Green G., Mulick J. A. (2006) Positive behavior support and applied behavior analysis. *The Behavior Analyst*. 29, 51–74.

Smith, T., (2013). What is evidence-based behavior analysis. *The Behavior Analyst*. 36, 7-33.

DDDC

stands for

**Douglass Developmental
Disabilities Center**



Abbreviations.com

Intervention Context & Generalization

Intervention Maxim #1

”If generalization is a concern then teach where the behavior is most likely to be displayed”

*DDDC Undergraduate
Fieldwork Manual, (1980)*

Positive Reinforcement



Positive reinforcement is anything that when presented contingent on the display of behavior increases the probability that the behavior will be displayed again. Amazingly simple in concept yet amazingly complex in implementation.

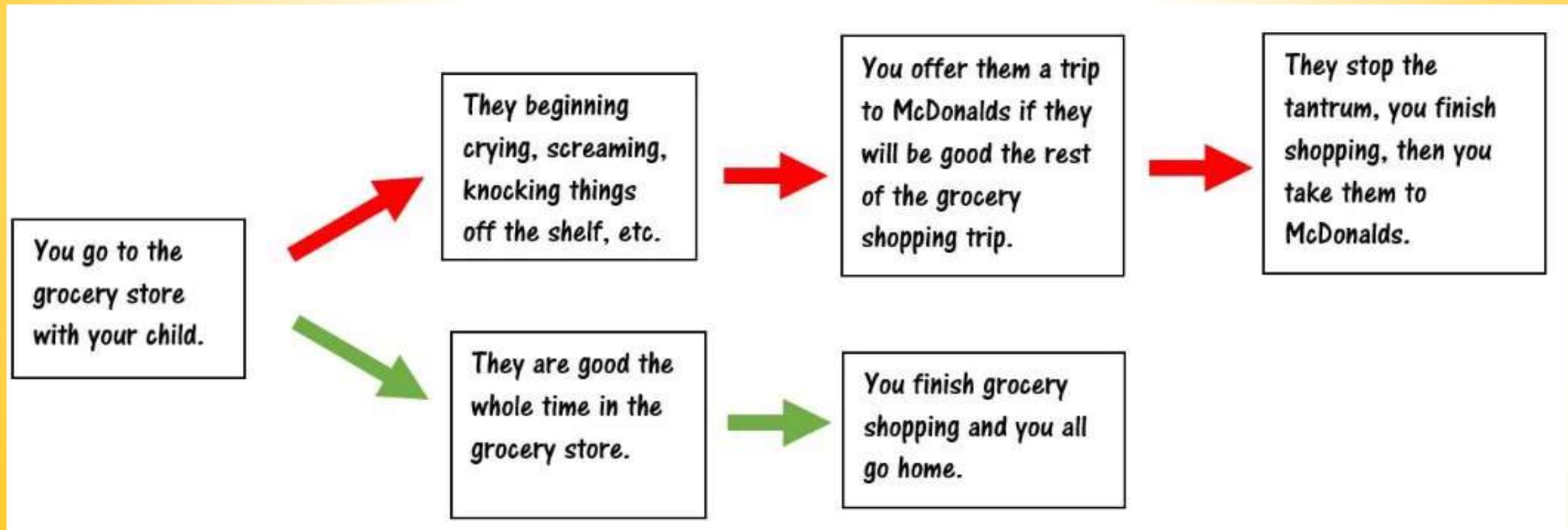


OPINION

Positive reinforcement (Sr^+) is the most effective, least well understood and most poorly implemented behavioral intervention we have in ABA & ASD.

Bribe vs Positive Reinforcement

The difference between positive reinforcement and bribery depends, pragmatically, on the timing. Reinforcement is set up ahead of time, before any behavior occurs, while bribery occurs in the middle of a challenging behavior episode. Let's take a look at a typical bribery scenario:



Why is the effective delivery of Sr⁺ so difficult?

- We are evolutionarily pre-programmed to notice aberrant behavior/unanticipated changes to the environment while, unfortunately, ignoring normative behavior. This most certainly contributed to our success as a species but it presents a challenge to the effective delivery of intensive and/or complex schedules of Sr⁺ in the classroom.
- Whether a stimulus is a Sr⁺ is a matter of function and not structure (Perone, 2003).
- The reinforcing value of any stimulus varies within an individual at different times of the day (tickles right after lunch may not be an Sr⁺) and across individuals so even when our delivery is well-timed, what we deliver may not function as Sr⁺.

Why is the effective use of Sr^+ so difficult?

- The response effort required to perform the desired response may be incompatible with the value of Sr^+ presented.
- How programming is delivered (e.g., rotating staff, staff turnover, etc.) may make the transfer of reinforcing properties from primary reinforcers to social or interpersonal reinforcers difficult.
- Competing or differential schedules of Sr^+ , will often result in the leaner schedule being perceived as a punisher and suppress responding.
- In practice, the delivery of positive reinforcement can quickly turn into the use of bribery, in less structured environments (particularly outside of the classroom).

Why is the effective use of Sr⁺ so difficult?

- Our own reinforcement history may impact how we delivery Sr⁺ under differential conditions.
- In general, we are less proficient at multi-tasking (the ability to perform more than one task, or activity, over a short period of time) than we like to think we are. It is difficult to parse out what do, and do not, know about multitasking, but for most of us it is not a strength (e.g., Alkahtani, et al, 2016; Buser & Peter, 2012). So administering trials, collecting and recording data, attending/responding to inappropriate behavior, AND effectively delivering Sr⁺ presents a fairly significant challenge without training in such.

Alkahtani, M. et al. (2016) Multitasking Trends and Impact on Education: A Literature Review *World Academy of Science, Engineering and Technology International Journal of Educational and Pedagogical Sciences*, 10, 1006-1012

Buser, T. & Peter, N. (2012) Multitasking. *Experimental Economics* ,15: 641-655

Why is the effective use of Sr^+ so difficult?

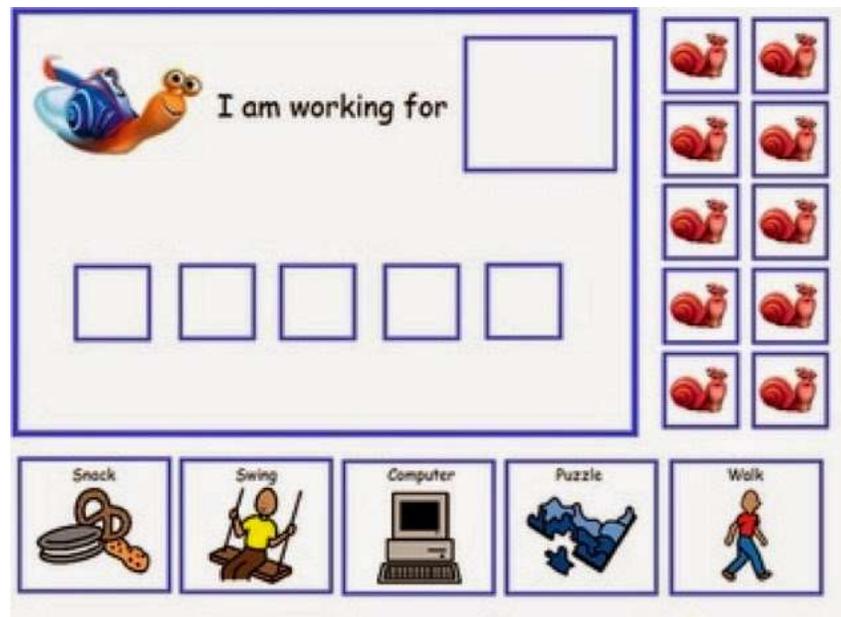
- *“Positive contingencies can be dangerous specifically because they do not generate avoidance, escape, or their emotional counterparts, even when the contingencies are ultimately detrimental. (Perone, 2003, p. 6) [] Positive reinforcement is implicated in eating junk food instead of a balanced meal, watching television instead of exercising, buying instead of saving, playing instead of working, and working instead of spending time with one's family. Positive reinforcement underlies our propensity towards heart disease, cancer, and other diseases that are related more to maladaptive lifestyles than to purely physiological or anatomical weaknesses.” (Perone, 2003, p. 7).*

Primary Sr⁺ From Preschool to High School

Preschool



Middle School



High School



And for Adults...



If I stick to my diet all week, I can have...



Delivering Sr+ to Adolescents and Adult with ASD

Some Dos and Don'ts



- Incorporate choice and subtly record choices for a more naturalistic preference assessment.
- Focus more on engagement & less on "stigmatizing" behavior.
- Increased response effort = Increased power of Sr+.
- Have the individual retrieve the Sr+ for his or herself.
- Identify environmental conditions that act as Sds.
- Normalize your behavior specific praise.
- Train community members to deliver behavior specific praise.
- Teach self-management/self-reinforcement.



- Do not hand-deliver the reinforcer, whatever it is.
- Do not, unless absolutely necessary, use a token board.
- Do not, unless absolutely necessary, use a timer. If a timer is necessary, program a smart phone.
- Do not use your "high pitched" praise voice.
- Do not, unless absolutely necessary, use physical contact as a Sr+
- Do not, unless absolutely necessary, use Sr+ that is age inappropriate (e.g., watching Barney).
- Do not establish demands (e.g., eye contact) that place a distance between the behavior and the Sr+.
- Do not stop thinking about how to do this better.

??????



??????

I tried reinforcement but it didn't work.
Nothing reinforces this student.
I don't know what happened, I just reinforced him and he hit me.
She knows she is not supposed to do that.
Mom won't let us use candy so we don't have any effective
reinforcers.
I don't have to reinforce him as he is supposed to do "X".
I did reinforce her. I told her "Good Job."

Given all that, the effective use of functionally relevant and socially valid schedules of reinforcement while in the community remains both a major challenge, and a programmatic necessity if behavior analysis is to meet our obligation to our students, clients, and families.





**THE WAY POSITIVE REINFORCEMENT IS CARRIED
OUT IS MORE IMPORTANT THAN THE AMOUNT.**

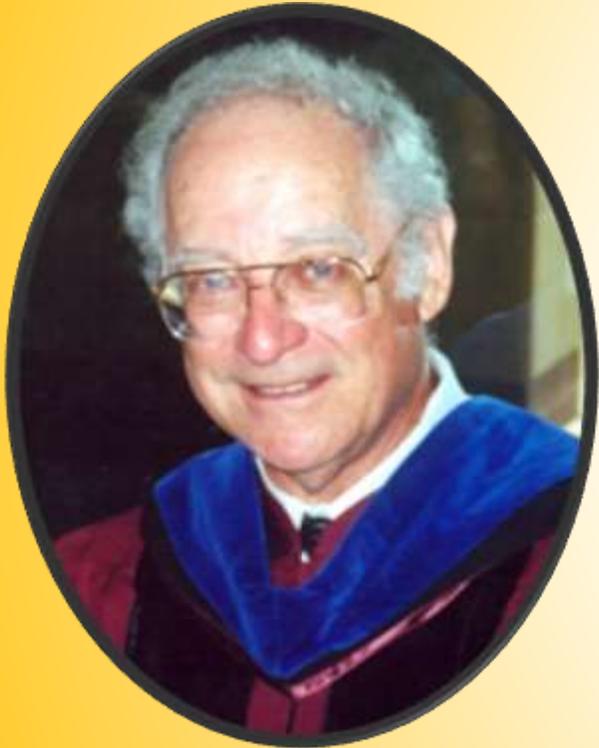
B.F. Skinner

1904 - 1990

But we haven't addressed the role generalization and maintenance in "mastery" yet

Generality - Behavior Analytic Interventions are designed from the outset to operate in new environments and continue after the formal treatments have ended

But we haven't addressed the role generalization and maintenance in "mastery" yet



“Learning one aspect of anything never means that you know the rest of it. Doing something skillfully now never means that you will always do it well. Resisting one temptation consistently never means that you now have character, strength, and discipline. Thus, it is not the learner who is dull, learning disabled, or immature, because all learners are alike in this regard: *no one learns a generalized lesson unless a generalized lesson is taught.*”

Baer, D.M. (1999). *How to plan for generalization* (2nd ed.). Austin, TX: Pro-Ed.

Stokes and Baer (1977) have provided us with 9 ways to categorize our generalization interventions....

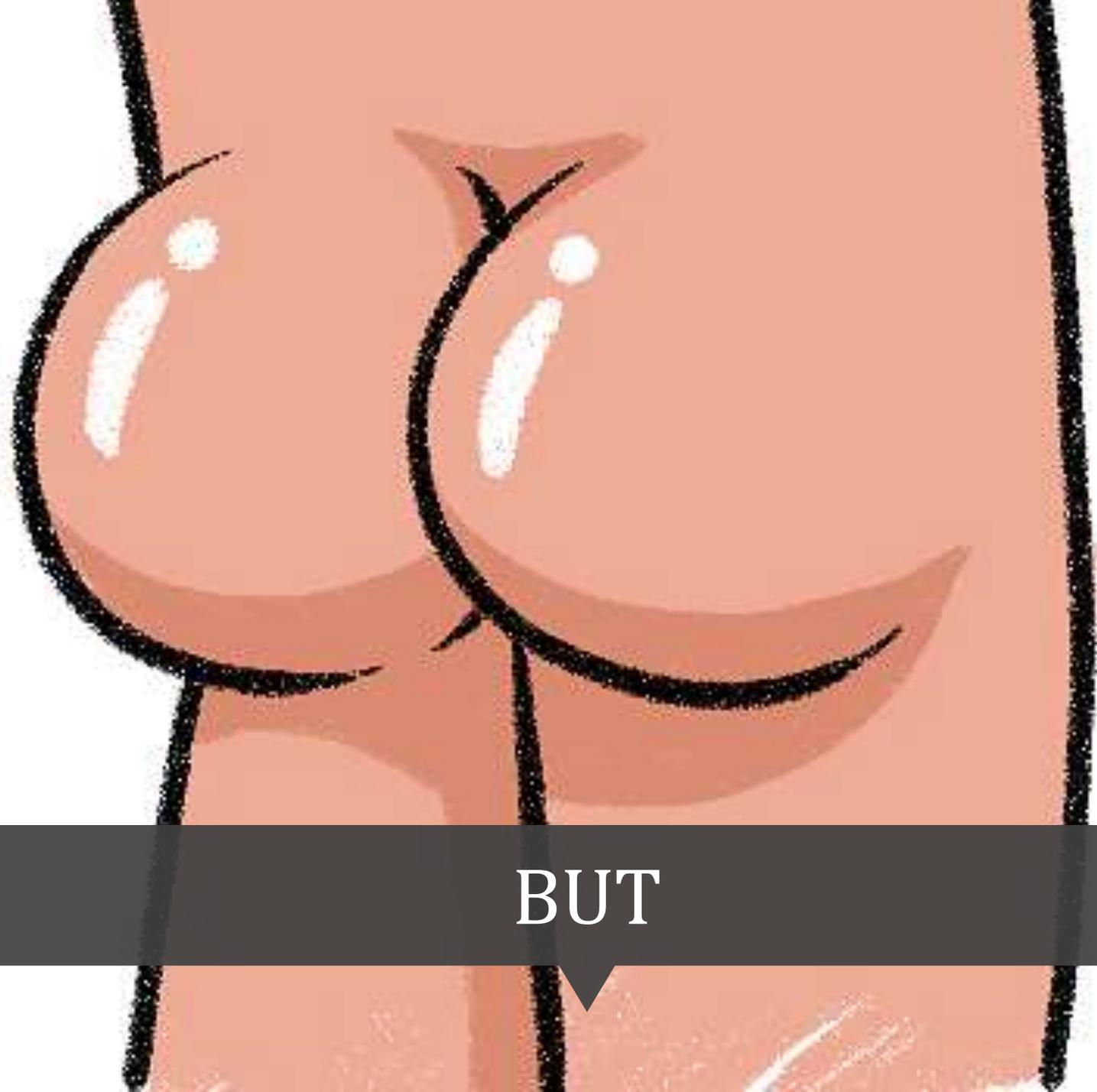
1. **Train and Hope:** after a behavior change is in effect...any existent generalization...is concurrently recorded but not actively pursued.
2. **Sequential Modification:** Generalization is assessed after behavior change and procedures are implemented across non-generalized conditions.
3. **Introduce to Natural Maintaining Contingencies:** Implementing behavior change procedures to behaviors that will naturally maintain reinforcement after treatment
4. **Train Sufficient Exemplars:** Teaching to the mastery of multiple examples of a generalizable lesson

Stokes, T.F. & Baer, D.M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis, 10*, 349-367.

Stokes and Baer (1977) continued...

- 5. Use in-discriminable contingencies:** Using unpredictable intermittent schedules of reinforcement across generalizable settings, making the response resistant to extinction, thus promoting generalization
- 6. Program common stimuli:** Train common stimuli so generalization will occur across other stimuli
- 7. Mediate Generalization:** Establishing a response as part of the new learning that is likely to be utilized in other problems as well.
- 8. Train to Generalize:** Reinforcement contingency is placed on a generalized response as with any other operant

Stokes, T.F. & Baer, D.M. (1977). An implicit technology of generalization. *Journal of Applied Behavior Analysis, 10*, 349-367.



BUT

Are Behavior Analysts Choosing the Right Generalization Techniques?

Stokes and Baer's (1977) analysis of generalization procedures in the published research found that 90% of publications that reported this method of training for generalization found it was effective. This classic article also noted limitations to these data, as it is possible that only positive results would be submitted for publication to begin with.

Stokes and Baer said it rather frankly when discussing why Behavior Analysts struggle with the Teaching Loosely Technique:

“Researchers always have attempted to maintain thorough control and careful restriction and standardization of their teaching procedures, primarily to allow easy subsequent interpretation of the nature of their (successful) teaching techniques”

Are Behavior Analysts Choosing the Right Generalization Techniques?

Neely, Ganz, & Davis et.al (2016), conducted a meta-analysis of generalization and maintenance techniques used to teach functional living skills to individuals with ASD.

- In this analysis, the train and hope or train to criterion and hope technique was used in 43% of the studies.
- What is even more interesting is that only 9 of 32 studies focusing on teaching FUNCTIONAL living skills were taught in the natural environment

Planning for Generalization and Teaching

Ask yourself these questions:

1. Will this skill generalize to the natural environment with the teaching intervention I am using?
2. Will my teaching intervention allow this skill generalize to novel materials, people, and settings in a reasonable amount of time EVEN if some teaching is necessary under those conditions?
3. Is my teaching intervention going to generalize to the home? Will a parent be able to implement this intervention?
4. Is my teaching intervention going to generalize to the community? Is this an intervention that CAN be implemented in the community.

What is skill mastery?

The mastery of a particular skill is generally understood to have occurred when the individual in question consistently and accurately displays the skill under the conditions likely to require/elicit the skill.

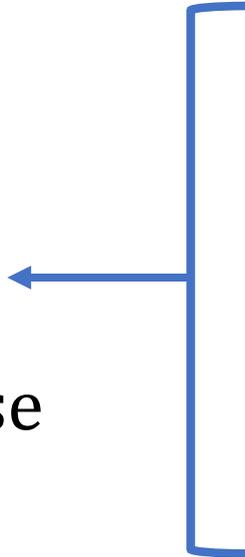
In ABA & ASD we tend to define mastery as occurring when the target behavior is displayed correctly 90% of the time it is required across 3 opportunities.

Such mastery criterion, while having a certain amount of face validity, (e.g., 90% correct on a math test might equate to a grade of "A") is arbitrary and may not be appropriate for all skill targets.

For example...

Some skills should only be considered mastered if student demonstrates 100% correct responding across presented opportunities. These might include:

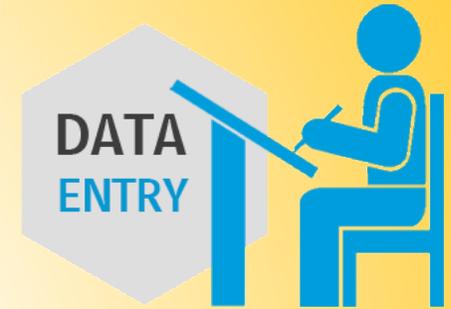
- Street crossing
- General safety skills
- Bowel & urine continence
- Menstrual care
- Dressing before leaving the house
- Flying an airplane
- Juggling chain saws
- Other?



In practice, however, there is an expected, if not necessarily accepted, error rate

For example...

- For other skills, mastery can only be considered when both rate and accuracy are evaluated.
 - The employment standard for data entry, for example, is 11,600 keystrokes/hour at 99.9% accuracy.*



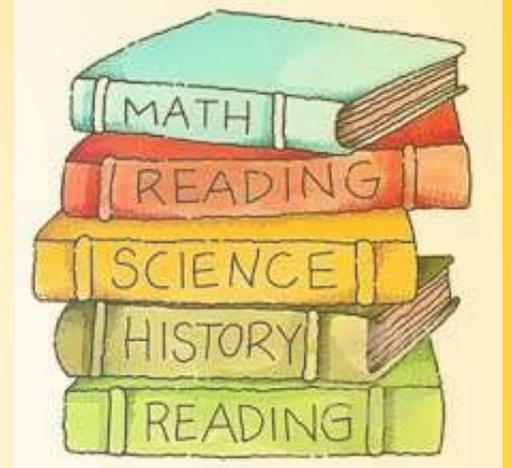
- For some skills, mastery is a function of the individual's ability to access or accept imbedded prompts.



*Source: <http://www.vikingsoft.com/pdf/evaluatingde-isb.pdf>

For example...

- Yet other skills can generally be considered mastered at somewhere above 80% correct responding:
 - Most academic skills
 - Most social skills
 - A variety of leisure skills
 - Etc.
- Some skills can be considered mastered at 30% correct responding:
 - Hitting a curve ball

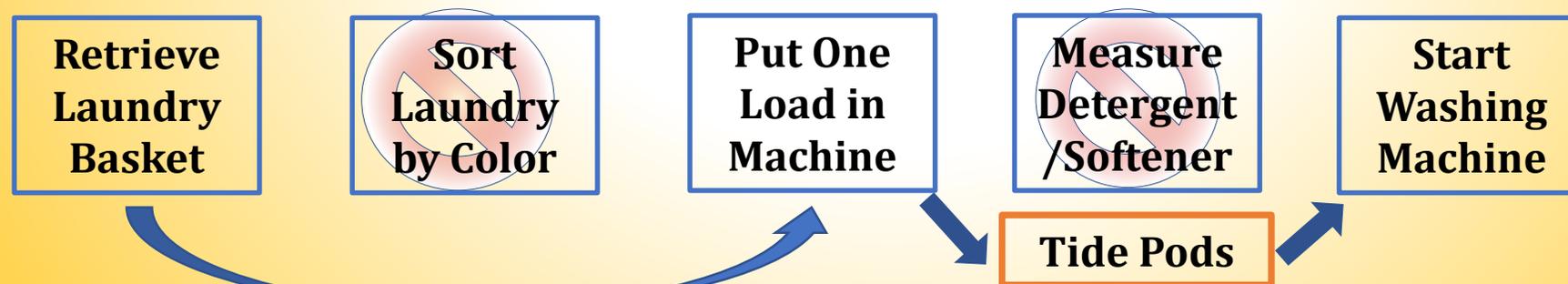


For example...

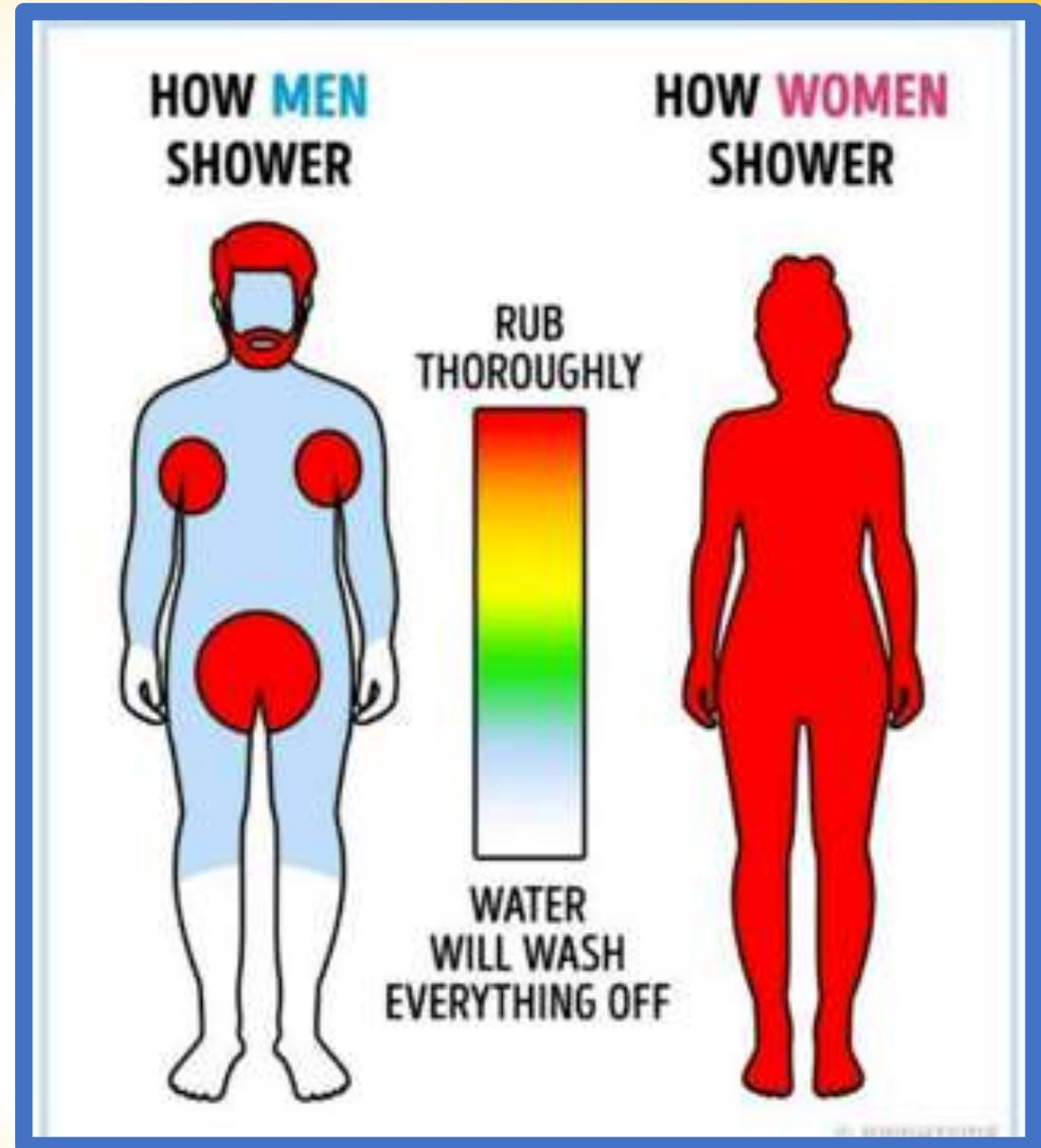
For some skills, including many ADLs, 90-100% correct is desirable **but** this needs to be considered within the context of personal independence.

- Tooth brushing - If the individual independently completes 60% of the steps in the TA but his or her errors are random, can brushing teeth 5 times/day produce the desired outcome in terms of health and hygiene?

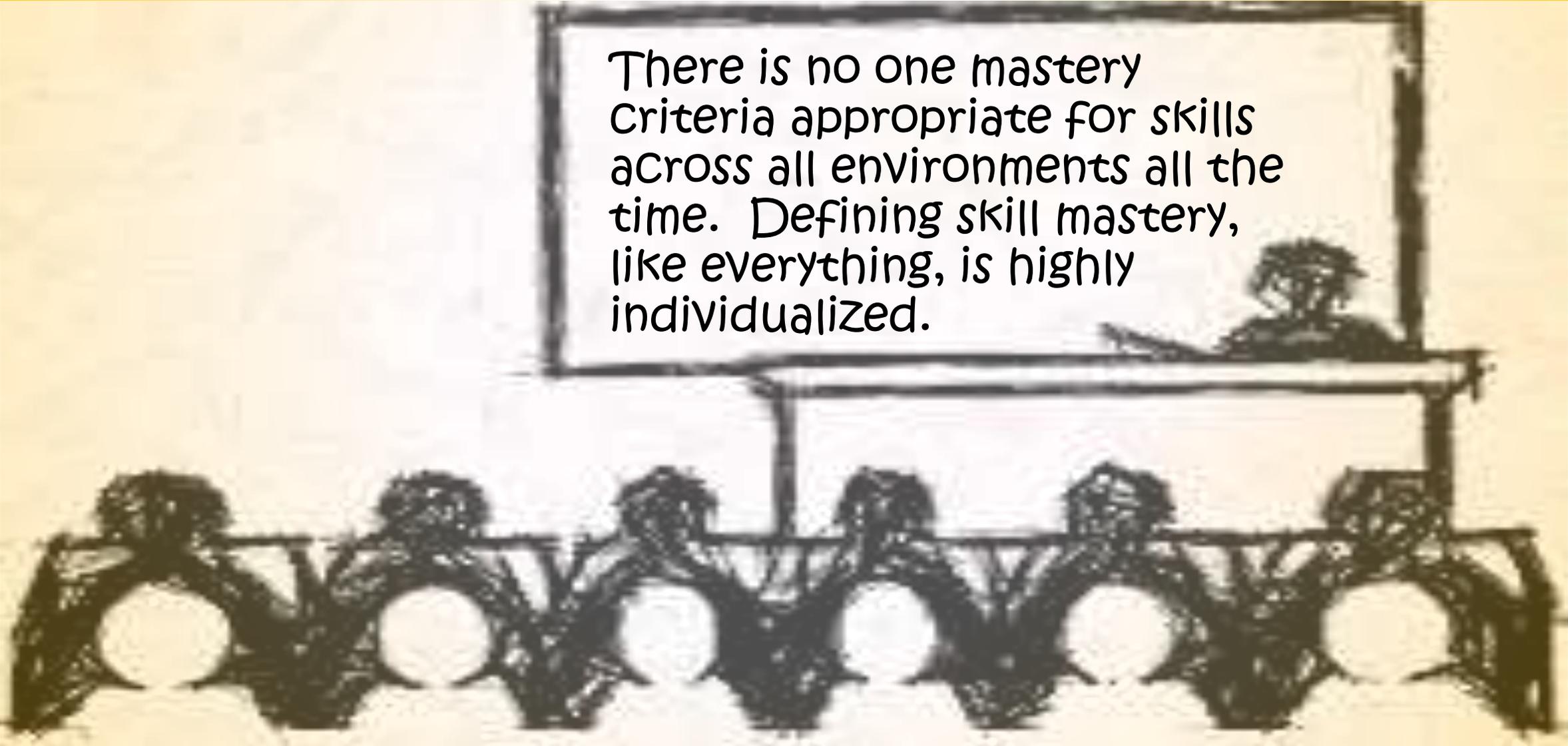
Independent of all that, mastery of any skill is significantly more attainable if we target the **simplest, most direct task analysis likely to result in the desired outcome.**



Some skills
may even
have a gender
component to
normative
mastery.



The moral of the story is:



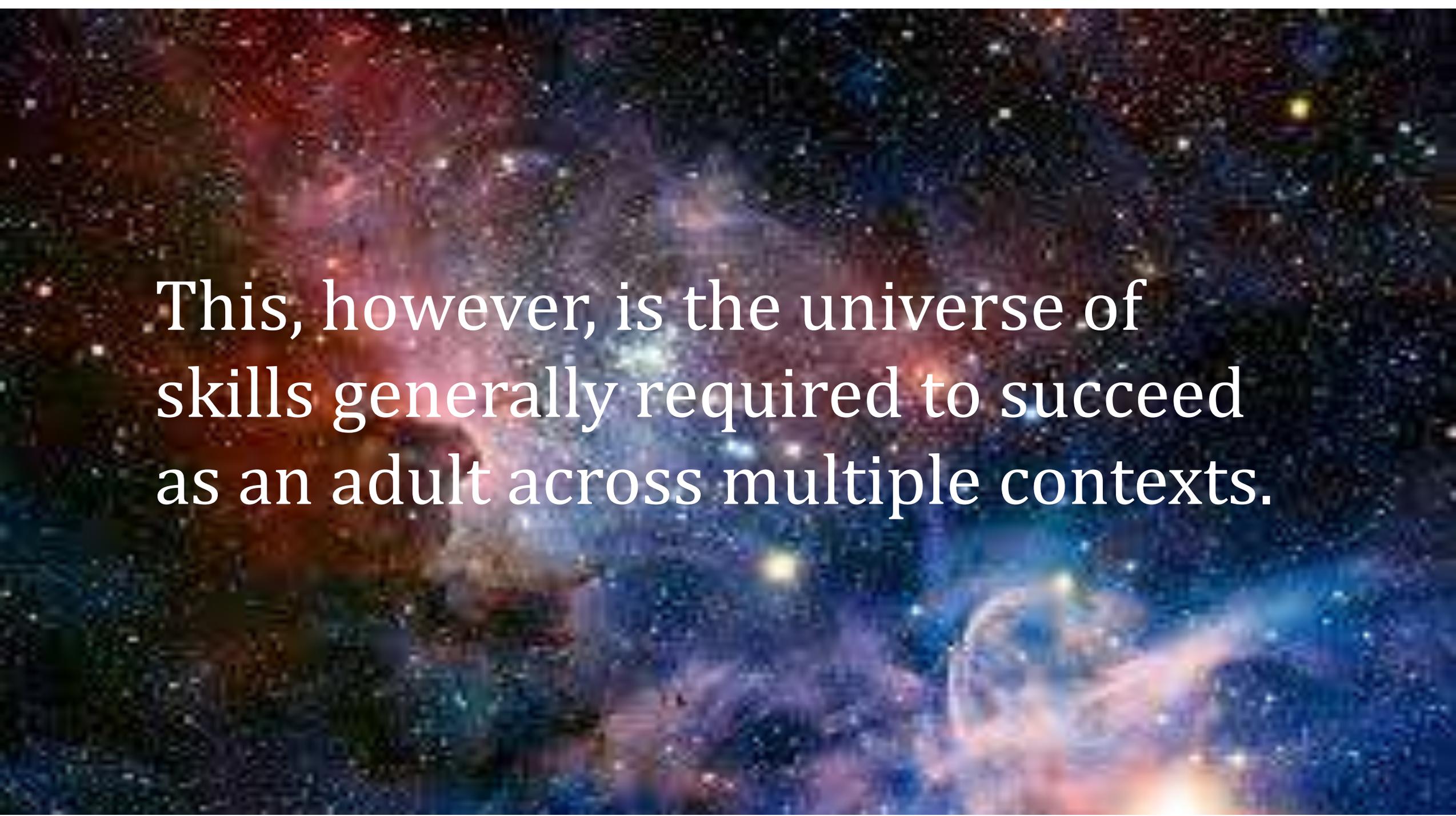
There is no one mastery
Criteria appropriate for skills
across all environments all the
time. Defining skill mastery,
like everything, is highly
individualized.

Critical Skills:

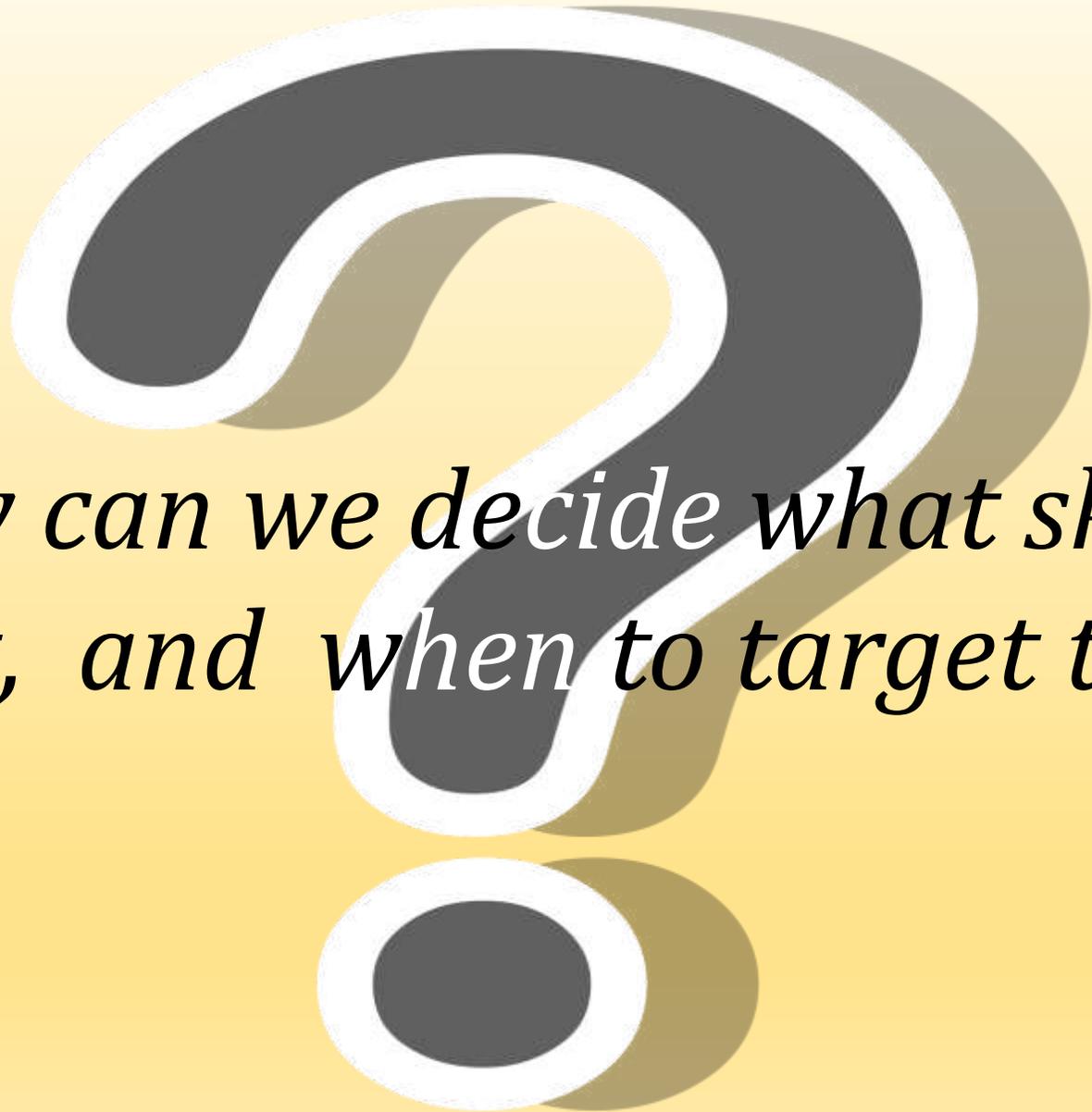
**Identify the most impactful
intervention targets**

This is the
universe of skills
needed to
succeed as a 5-
year old .





This, however, is the universe of skills generally required to succeed as an adult across multiple contexts.



So how can we decide what skills to target, and when to target them?

A working definition of a critical skill

A
critical
skill is
one
that:

Once acquired, enables the individual to independently complete a variety of relevant tasks and engage in desired activities, AND

Is used with sufficient frequency to remain in the individual's repertoire. The exception here are safety skills which, ideally, are low response frequency skills, AND

Can be acquired within a reasonable time frame*.

EPIC's Critical Skill Assessment

Age									
	Toileting (Urine)	Toileting (Bowel)	Dressing	Eating	Chores	Dyad	Self Mgmt	CBI	Safety Skill
6-9	2/7 29%	2/7 29%	1/7 14%	3/7 43%	0/7 0%	0/7 0%	1/7 14%	3/7 43%	0/7 0%
10-12	6/10 60%	1/10 10%	7/10 70%	6/10 60%	4/10 40%	0/10 0%	2/10 20%	6/10 60%	4/10 40%
13-16	7/11 63%	4/11 36%	7/11 63%	7/11 63%	7/11 63%	5/11 45%	5/11 45%	11/11 100%	4/11 36%
17+	3/4 75%	2/4 50%	2/4 50%	1/4 25%	1/4 25%	0/4 0%	1/4 25%	4/4 100%	0/4 0%
School Wide	18/32 56%	9/32 28%	17/32 53%	17/32 53%	14/32 44%	5/32 16%	9/32 28%	24/32 75%	8/32 25%

The Essential Eight

(McGreevy, Fry, & Cornwall, 2012)

1. Making requests
2. Waiting after making requests
3. Accepting removals, making transitions, sharing, and taking turns
4. Completing 10 consecutive, brief, previously acquired tasks
5. Accepting 'No'
6. Following directions related to health and safety
7. Completing daily living skills related to health and safety
8. Tolerating situations related to health and safety

SOCIAL VALIDITY: THE CASE FOR SUBJECTIVE MEASUREMENT
OF
HOW APPLIED BEHAVIOR ANALYSIS IS FINDING ITS HEART¹

MONTROSS M. WOLF

UNIVERSITY OF KANSAS

I apologize, but I must begin making my case for subjective measurement by recounting to you my own experiences with it over the past few years. Almost a decade ago, when the field of applied behavior analysis was beginning to expand so rapidly, we were faced with the task of putting together the *Journal of Applied Behavior Analysis*. For a period of several months Garth Hopkins, who was our managing editor, presented us with a series of unexpected decisions to make; like: What color should the paper be? And did we need a paper that would hold together for two thousand years or were we willing to live with a shelf-life of only a thousand years? And so on.

Just a couple of days before we were scheduled to go to press with our very first issue, Garth called with one more question. "What is the purpose of the *Journal of Applied Behavior Analysis*?", he asked. He said we needed to put a description of the purpose on the inside front cover, as one finds in other journals. He needed an answer almost immediately.

¹This manuscript was presented as an invited address to the Division of the Experimental Analysis of Behavior, American Psychological Association, Washington, D.C., September, 1976. Many valuable suggestions regarding this manuscript were made by Don Baer, Curt Brackmann, Steve Fawcett, Dean Finsen, Bill Hopkins, Frances Howson, Keith Kirpich, Jack Michael, Keith Miller, Todd Riskey, Jim Sherman, and Sandra Wolf. Preparation of the manuscript was partially supported by Grants MH20030, MH13644, and MH13881 from the National Institute of Mental Health (Center for Studies of Crime and Delinquency) to the Department of Human Development and the Bureau of Child Research, University of Kansas. Reprints may be obtained from Montross M. Wolf, Department of Human Development, University of Kansas, Lawrence, Kansas 66045.

What was the purpose of our journal? It was a question that was clearly more important than the others I had been asked. So I decided to consult the Gods but, as usual, Don Baer, Don Baebell, Barbara Etsel, Vance Hall, Bill Hopkins, Judy LaBlanc, Keith Miller, Todd Riskey, and Jim Sherman were not in their offices. However, I did find Don Baer in the hall. So I asked Don, "What is the purpose of *JABA*?" and Don said in his usual offhanded but eloquent way, "It is for the publication of applications of the analysis of behavior to problems of social importance." Well, that sounded so reasonable that it had to be true. So that is what I put in the *Journal* and it went to press.

There was only one small problem; I wasn't sure what "social importance" meant or, worse still, how to measure it. And, as I am sure you can appreciate, the more I thought about this the more concerned I became.

The dictionary only added to my distress. According to my *New Webster's Van Fostler Dictionary* (1962) importance simply meant "having value" and of course, social meant "pertaining to society". Thus, something of social importance would have to be judged by someone as having value to society.

Unfortunately, that sounded slightly subjective to me. And subjective criteria have not been very respectable in our field. We have considered ourselves a natural science, concerned about the objective measurement of natural events such as arithmetic problems worked correctly, litter picked up, sexual responses occurring, and social skills learned. We have considered ourselves to be like the other natural sciences: like physics, chemistry, and biology, which concern

Application of Social Validity In ABA

"At the same time that I was having to wrestle with the problems of subjective measurement in JABA, my colleagues and I in the Achievement Place Research Project were having some problems with unsolicited subjective feedback on similar issues. Colleagues, editors, and community members were asking us about the behavioral goals that we had chosen for training the teaching-parents and the youths participating in the community-based, family-style, behavioral treatment program at Achievement Place. They would ask us: "How do you know what skills to teach? You talk about appropriate skills this and appropriate skills that. How do you know that these are really appropriate?" (Wolf, 1978, p. 206)

Social Validity in ABA

“The suggestion seemed to be that society would need to validate our work on at least three levels:

- 1. The social significance of the goals. Are the specific behavioral goals really what society wants?*
- 2. The social appropriateness of the procedures. Do the ends justify the means? That is, do the participants, caregivers and other consumers consider the treatment procedures acceptable?*
- 3. The social importance of the effects. Are consumers satisfied with the results? All the results, including any unpredicted ones?*

We have come to refer to these as judgements of **social validity.**”
(Wolf, 1978, p. 207)

Social Validity in ABA

"It is clear that a number of the most important concepts of our culture are subjective, perhaps even the most important. Martin Luther, as the story goes, was severely criticized for setting Protestant [sic] hymns to the popular melodies of songs and dances of the time. He replied, "Why should we let the devil have all the best tunes?" Well, why should we let the others have all of the best human goals and social problems?" (Wolf, 1978, p. 210)

Application of Social Validity 20 Questions

	Consideration	Response
1	Is the skill derived from a comprehensive and ongoing assessment?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2	Is the skill a prerequisite to a more complex, yet important skill (e.g., Letter ID as a prerequisite to Reading)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3	Is the skill one that can be of use across multiple environments?	<input type="checkbox"/> Yes <input type="checkbox"/> No
4	Can the skill be acquired by the student in a reasonable time frame?	<input type="checkbox"/> Yes <input type="checkbox"/> No
5	Is the skill one that will still be useful in 3-5 years?	<input type="checkbox"/> Yes <input type="checkbox"/> No
6	Is the skill one that lends itself to an acceptable degree of instructional intensity?	<input type="checkbox"/> Yes <input type="checkbox"/> No
7	Once acquired, is the skill one the student will use with sufficient frequency that it will be easily maintained?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Application of Social Validity 20 Questions

	Consideration	Response
8	Is the skill the most direct, simplest way to achieve the desired outcome?	<input type="checkbox"/> Yes <input type="checkbox"/> No
9	Does the skill improve the student's ability to communicate?	<input type="checkbox"/> Yes <input type="checkbox"/> No
10	Does the skill support social inclusion and/or peer relationships?	<input type="checkbox"/> Yes <input type="checkbox"/> No
11	Does the skill ultimately promote independence via adaptive behavior?	<input type="checkbox"/> Yes <input type="checkbox"/> No
12	Does the skill ultimately promote independence via self-management?	<input type="checkbox"/> Yes <input type="checkbox"/> No
13	Does the skill ultimately promote individual safety skill	<input type="checkbox"/> Yes <input type="checkbox"/> No
14	If the skill uses "hi tech" is it the most current tech available?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Application of Social Validity 20 Questions

	Consideration	Response			
15	Is the skill a one that student might find enjoyable?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
16	Is the skill one the contributes to the student's health or a healthy lifestyle (e.g., exercise)?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
17	Is the skill one that is culturally relevant?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
18	Is the skill of importance to the student's family?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
19	Is the skill one that has relevance to future employment?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No
20	Is the skill one that has relevance to future life in the community, outside of the family home?	<input type="checkbox"/>	Yes	<input type="checkbox"/>	No

Absent an good understanding of social validity, behavior analysts will almost always be at a loss when prioritizing skills targeted for acquisition as part of the transition process. Except, hopefully for the next 10...

10



XX

15 LIFE SKILLS

EVERY KID NEEDS TO LEARN

- BASIC FIRST-AID
- HOW TO SAY "NO"
- HOW TO COOK SOMETHING THAT DOESN'T COME IN A BOX WITH POWDER LABELED "SAUCE."
- HOW TO WRITE AN ESSAY
- HOW TO GROCERY SHOP ON A BUDGET
- HOW TO JUMP-START A CAR
- HOW TO DO THEIR LAUNDRY
- BASIC HOME AND CAR REPAIR AND MAINTENANCE
- HOW TO SEND A PROFESSIONAL EMAIL
- HOW TO PUT ON
- HOW TO CHANGE A TIRE
- HOW TO STUDY
- HOW TO PROOFREAD

Early Intervention

- Ages 0 - 3
- Prior to entering school

Preschool

- Ages 3 -5
- First years in school

Elementary

- Ages 5 -10
- Kindergarten – 5th grade

Middle

- Ages 11 - 14
- Grades 6 – 9

Transition

- Ages 14 – 18
- Grades 9 – 12
- Structured Learning Environment begins at 16

Adulthood

- Ages 18 and up
- Ages 18 – 21 continue under IDEA
- 21 and over- Adult services



Critical Skill - Toileting (Bowel and Urine)

Goal – Independent use of a bathroom, when necessary, including locking the door, wiping seat, wiping self (if necessary), washing hands, exiting bathroom and return to “location”

Critical Skill: Toileting

Preschool/Elementary

Independent initiation for the toilet
Void urine and bowel in toilet only
Pull down pants
Pull up pants
Zip/Button
Flush
Wipe after urine (f) and bowel
Wash hands
Female preparation for menses
(age 8)
Stay dry throughout the night
Minimizing exposure
Using a urinal
Gender consideration
Closing and locking bathroom stall
Wiping/lining a seat
Refrain from water play

Middle School

Self advocacy
Keep track of menses and materials needed
Adult supervision faded

Transition

Choose gender appropriate restroom
Returning to location/task
Adult supervision fully faded

Terminal Goal

Independent use of a restroom, when necessary including:

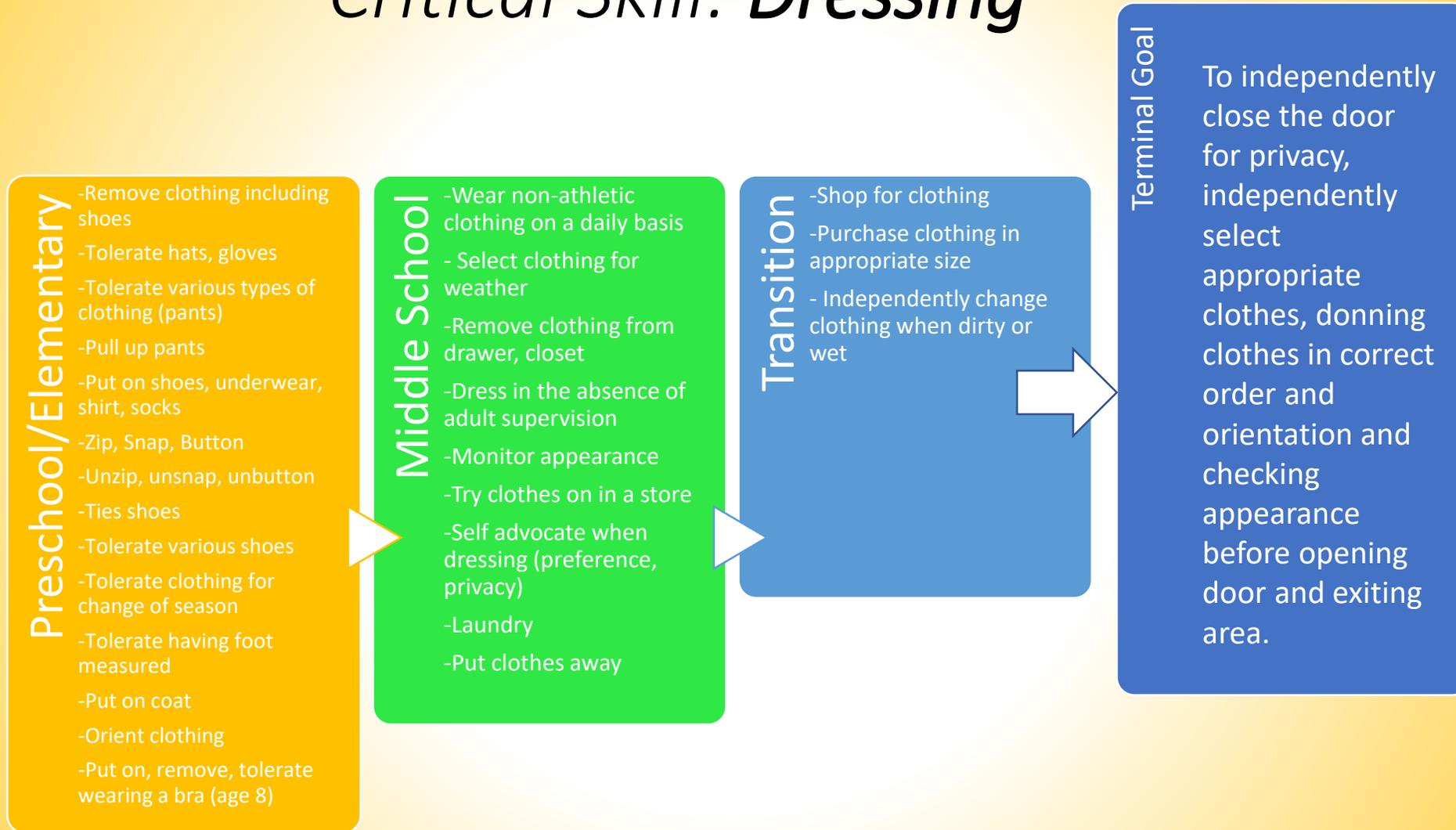
- Choosing the correct restroom
- locking the door
- wiping the seat
- wiping self
- washing hands
- exiting the bathroom return to “location”



Critical Skill - Dressing

- Goal – Closing door for privacy, independent selection of appropriate clothes, donning clothes in correct order and orientation and checking appearance before opening door and exiting area.

Critical Skill: Dressing

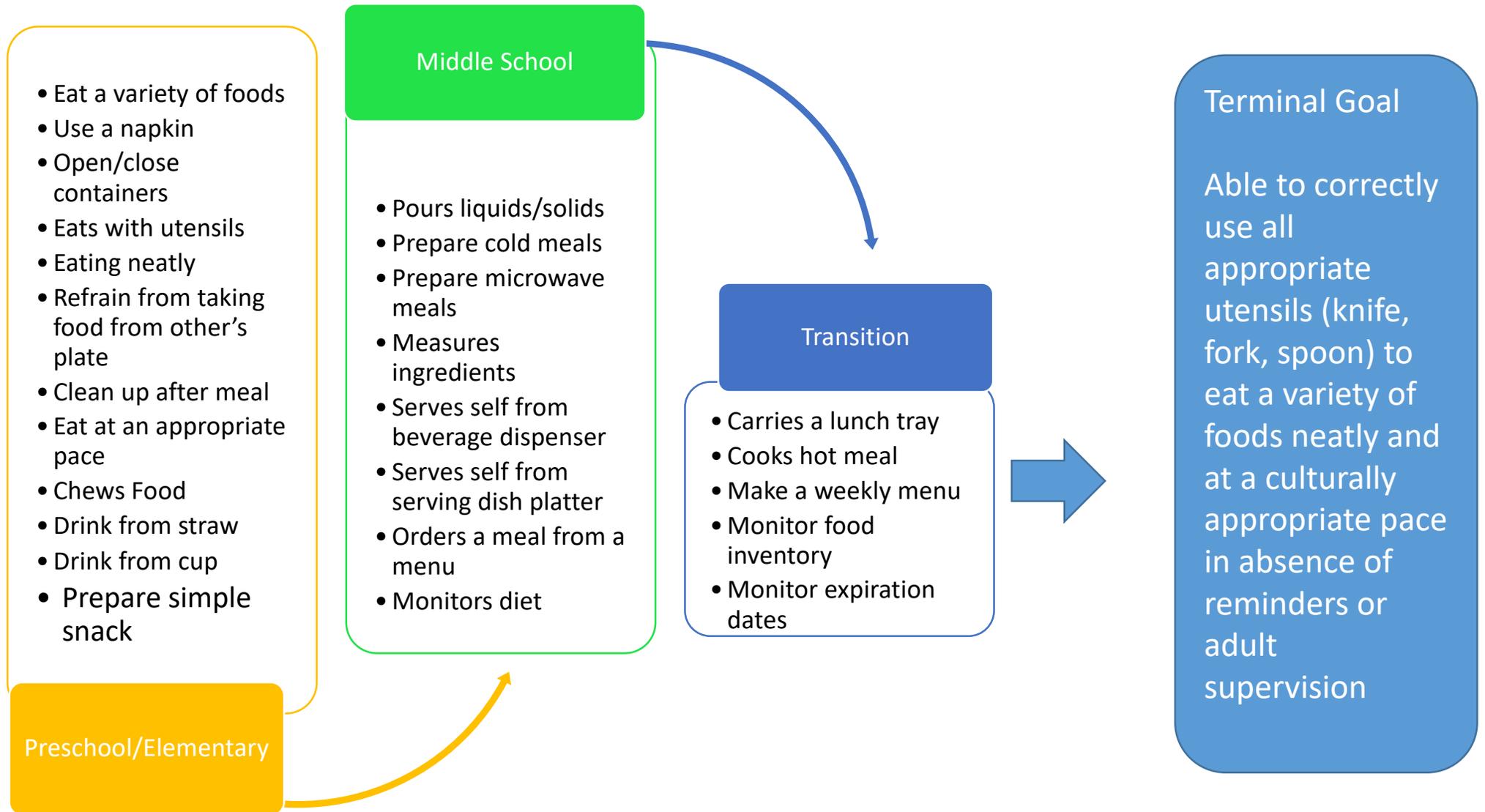




Critical Skill - Independent Eating

Goal – Able to correctly use all appropriate utensils (knife, fork, spoon) to eat a variety of foods neatly and at a culturally accepted pace.

Critical Skill: Independent Eating



Critical Skill – Bathing/Self Care

Goal – To demonstrate the ability to independently bathe/shower and complete relevant self care/hygiene skills (e.g., tooth brushing, grooming, etc.)



Critical Skill: Bathing/Self Care

Preschool/Elementary

- Wash body with assistance/supervision
- Wash hair with assistance/supervision
- Brush Teeth
- Brush Hair
- Turn on water to appropriate temperature
- Dry body
- Tolerate nail cutting
- Tolerate dental examination
- Tolerate doctor examination
- Tolerate hair cut
- Use deodorant
- Blows nose

Middle School

- Shower in the absence of adult supervision
- Styles own hair
- Follows a hygiene routine
- Clips nails
- Advocates for privacy when completing hygiene routines

Transition

- Shaves facial or body hair
- Manages self care products and inventory

Terminal Goal

To demonstrate the ability to independently bathe/shower and complete relevant self care/hygiene skills (e.g., tooth brushing, grooming, etc.)



Critical Skill – Household Participation

Goal – Independent completion of a variety of household chores or, in our field, “ADLs”. The issue is not whether to target these skills but rather, when to target these skills.

Critical Skill: Household Participation

Preschool/Elementary

- Pack/unpack Backpack
- Feed a pet
- Hang coat
- Put shoes away
- Clean up after meal
- Use handheld vacuum
- Wipe a surface
- Water plants
- Restore the environment
- Prepare a no-cook snack
- Use microwave
- Unload dryer
- Make a bed

Middle

- Vacuum
- Hang Clothes
- Laundry
- Sweep
- Fold
- Take out garbage
- Set a table
- Make a shopping list
- Clean a table
- Brush a pet
- Dust
- Put groceries away
- Change sheets
- Wash Dishes
- Load/Unload a dishwasher
- Put clothes away
- Prepare a hot or cold meal

Transition

- Take garbage to the curb
- Rake leaves
- Shovel snow
- Cut grass
- Pull weeds
- Care for garden
- Clean bathroom
- Mop the floor
- Walk a pet
- Pack groceries
- Prepare/pack lunch for work

Terminal Goal

Independent completion of a variety of household chores.

Household Participation Skills (ADLs) with typical children

AGE	CHORE
2-4 year olds	<i>Help dust, Put napkins on table, Put laundry in hamper, Help feed pet</i>
4-7 year olds	<i>Set (or help set) the table, Put away toys, Help make bed, Help put dishes in dishwasher, Help clear table, Help put away groceries, Water the garden</i>
8-10 year olds	<i>Make bed, Set & clear table, Dust, Vacuum, Help wash car, Help wash dishes, Take out the trash</i>
11 year olds and older	<i>Above plus clean room, Mow lawn, Feed pets, Start doing own laundry, Make small meals, Shovel snow, Help with yard work, Empty and load dishwasher, etc.</i>



Critical Skill – Able to learn in a group

- Goal – To acquire new skills when presented via dyad or triad instruction at a rate of acquisition similar to that documented via 1:1 instruction.

Critical Skill: *Able to learn/work in a group*

1:1

Preschool/Elementary

- Work in a dyad or group with 1:1 support from behind
- Individualized reinforcement presented in a group
- Frequent breaks
- Teach choral responding
- Teach conditional responding
- Teach imitation
- Teach waiting
- Teach sitting appropriately
- Teach maintaining attending
- Teach schedule following

2:1

Middle

- Complete tasks in a dyad without support from aide
- Reduce access to reinforcement
- Less frequent breaks
- Self monitoring
- Teach to monitor time
- Teach to complete a task list
- Teach to stay on task in absence of adult presence
- Teach appropriate off task behaviors

3:1

Transition

- Teach to remain on task in work/community environment
- Teach appropriate off task behaviors for work/community
- Teach to monitor time for breaks that are delayed

Terminal Goal

To acquire new skills when presented via dyad or triad instruction at a rate of acquisition similar to that documented via 1:1 instruction

Critical Skill – Self Management



Goal – To demonstrate the ability to identify one’s own behavior as either appropriate or inappropriate deliver potential reinforcement in the absence of supervision.

Critical Skill: *Self Management*

- Tolerating Denied Access
- Waiting for preferred items
- Self Advocacy
- Set Timer
- Discrimination Skills
- Coping Skills
- 15-30 minute on task endurance
- Identify/label emotions self
- Dense schedule of reinforcement
- Variety of reinforcers
- Ability to access reinforcers
- Variety of age appropriate leisure skills

Preschool/Elementary

Middle School

- Monitor time using technology (e.g., watch, phone)
- Responding to an alarm
- Keeping appointments for preferred and non-preferred activities
- Faded schedule of reinforcement

- Appropriate off task behavior
- Faded supports (e.g., token boards)
- Lean schedule of reinforcement

Transition

Terminal Goal

To independently regulate their own behavior using thin schedules of reinforcement and reduced supports from external resources in a variety of settings and situations at home, school, work and in the community.

Critical Skill – Problem Solving/Variable Responding

Goal – To demonstrate the ability to offer more than one potential solution when presented with a relevant problem or challenge.



Critical Skill: Problem Solving/Variable Responding

Preschool /Elementary

- Make choices for preferred items
- Make choices from less preferred items
- Teach yes/no responses
- Tolerance to change in routine
- Teach to aide generalization- multiple exemplars, multiple environments, varied responses
- Teach to accept substitutions
- Allow for some risk

Middle

- Teach to seek substitutions
- Contrive situations that require problem solving
- Increase time delay between the response and the prompt
- Allow for errors if end result is the same
- Allow for increased risk
- Loosen up on error correction
- Teach to discriminate correct vs. incorrect responses

Transition

- Teach to seek substitutions in the community
- Teach to evaluate the end product
- Allow for increased risk
- Teach to varied responses and multiple exemplars in the work environment and community
- Teach to learn from errors

Terminal Goal

To demonstrate the ability to offer more than one potential solution when presented with a relevant problem or challenge in multiple environments

Critical Skill – Maintain Physical Safety

Goal 1 – Demonstrate the ability to identify and avoid potential “non-human” dangers in the immediate environment.

Goal 2 – Demonstrate ability to discriminate between “safe” and “unsafe” people and respond appropriately.

Goal 3 – Demonstrate a reasonable degree of noncompliance when presented with “privacy requests” from an unapproved person.

Goal 4 – Demonstrate ability to participate in healthcare management activities (e.g., doctor or dentist visits).



Critical Skill: Safety

Preschool/Elementary

- Discrimination skills (clean/dirty; hot/cold; safe/danger; yes/no)
- Walk with an adult without holding hands
- Stop and wait with an adult
- Refrain from touching objects and others when waiting
- Respond to the instruction "Stop"
- Respond to the instruction "Come Here"
- Describe environment- Locations, "What do you see?"
- Exchange an ID with personal information when asked
- Discriminate strangers versus known people
- Provide personal space
- Respond independently to fire alarm
- Tolerating a band-aide
- Identification and naming of body parts
- Tolerance of all health care activities (e.g., doctor visits)

Middle

- Self advocacy*
- Responding to common community signs in the natural context
- Answer a cell phone or read text messages and follow instructions
- Discriminate when to share personal information
- Stop at crosswalk/curb and cross the street with adult

Transition

- Cross at a crosswalk or intersection independently
- Request assistance from community helpers
- Recognizing an emergency
- Calling 911
- Basic first aid
- Internet Safety

Terminal Goal

To demonstrate the ability to identify and avoid potential "non-human" danger in the environment; the ability to discriminate between "safe" and "unsafe" people and respond appropriately; display a reasonable degree of noncompliance to privacy requests; ability to participate in healthcare management activities

Safety Skills

Physical Safety

Simple Discrim Skills

Hot/Cold, Wet/Dry,
Light/Dark,
Sharp/Dull, Stop/Go,
Quiet/Loud, ETC

Complex Discrim Skills

Near/Far, Many/Few,
Fast/Slow, High/Low,
ETC

Multiple Discrim Skills Inc. Negation

Cold/Wet/Red v
Cold/Dry/Red

Situational Discrim Skills

Where, When Who, What, How
Stranger/Mall v Stranger/Home,
Fast Car/My Street, Fast Car/Cross Street

Social Safety

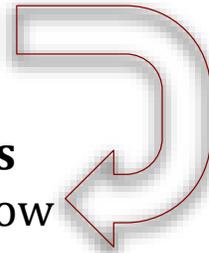
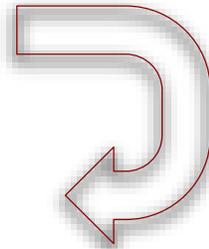
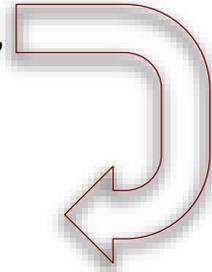
Emotional Safety

Response to

Failure in either the
physical or social
safety domain.
Intervention may take
form of BST, CBT, or
systematic
desensitizing.

Accurate?

Always – Sometimes – Rarely –
Never



BST and Safety Skills

Safety skills are important for learners with autism and should be addressed comprehensively over the course of the learner's schooling and across the lifespan. An effective method to teach safety skills is Behavioral Skills Training (BST). BST is a comprehensive teaching method which includes delivering instructions to the learner, modeling the correct response, rehearsing the correct response in both pretend and more naturalistic environments, and delivering feedback to the participant regarding their actions. (Beck & Miltenberger, 2009; Gunby, Carr & LeBlanc, 2010; Johnson et al., 2006) and how to seek assistance when lost (Pan-Skadden et al., 2009).

Error-based learning

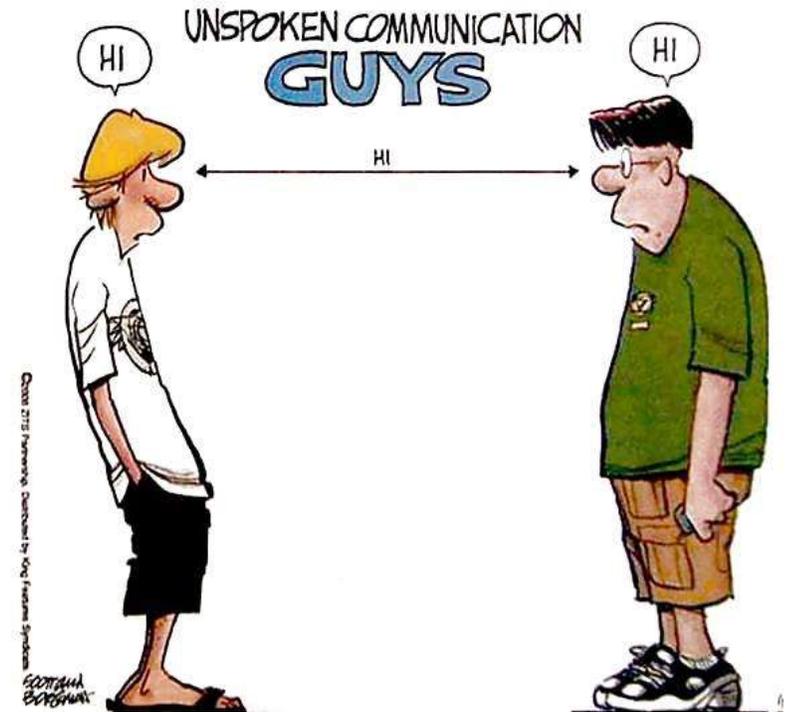
- “Learning from errors is one of the basic principles of motor skill acquisition” (Seidler, Kwak, Fling, & Bernard, 2013, p.1)
- Medical training must at some point use live patients to hone the skills of health professionals. But there is also an obligation to provide optimal treatment and to ensure patients’ safety and well-being. Balancing these 2 needs represents a fundamental ethical tension in medical education. Simulation-based learning can help mitigate this tension by developing health professionals’ knowledge, skills, and attitudes while protecting patients from unnecessary risk. Simulation-based training has been institutionalized in other high-hazard professions, such as aviation, nuclear power, and the military, to maximize training safety and minimize risk (Ziv, et al, 2006).

Seidler, R. D., Kwak, Y., Fling, B. W., & Bernard, J. A. (2013). Neurocognitive Mechanisms of Error-Based Motor Learning. *Advances in Experimental Medicine and Biology*, 782, 1-21

Ziv, Amitai MD; Wolpe, Paul Root PhD; Small, Stephen D. MD; Glick, Shimon MD , (2006). Simulation-Based Medical Education: An Ethical Imperative. *Simulation in Healthcare: The Journal of the Society for Simulation in Healthcare*: 252-256

Critical Skill - Communication

Goal – Demonstrate the ability to make one's wants and needs known to naïve listeners across multiple environments.



Critical Skill: Communication

Preschool/Elementary

- Evaluate for means of communication
- Teach basic communicative functions such as mands, tacts, intraverbals
- Teach students to locate a communicative partner by gaining attention without tapping or touching others
- Teach to combine words as language develops (e.g., red candy, more water).
- Pair language with naturalistic environment, stay away from teaching language in DT
- Continually assess mode of communication (low tech visual supports, high tech dynamic display devices, sign, verbal, gesture)
- Reinforce language the way it is generated, acknowledge and model an appropriate response.
- Teach to the power of communication, put less focus on form
- Teach responding to and initiating greetings and closures
- Teach seeking help for basic needs
- Teach responses to "Who," "What," and "Where"
- Teach to tolerate "No"

Middle

- Focus on self advocacy, mands for preferred items should be part of the repertoire already
- Expand vocabulary
- Provide for mode of communication to community members or novel listeners
- Teach compensatory strategies such as visual supports
- Teach how to respond when others do not respond
- Teach commenting, reciprocating, question asking, seeking information
- Teach to seek help with context when needed
- Expand on and answering "Wh" questions by teaching to recall and retelling information
- Deliver messages

Transition

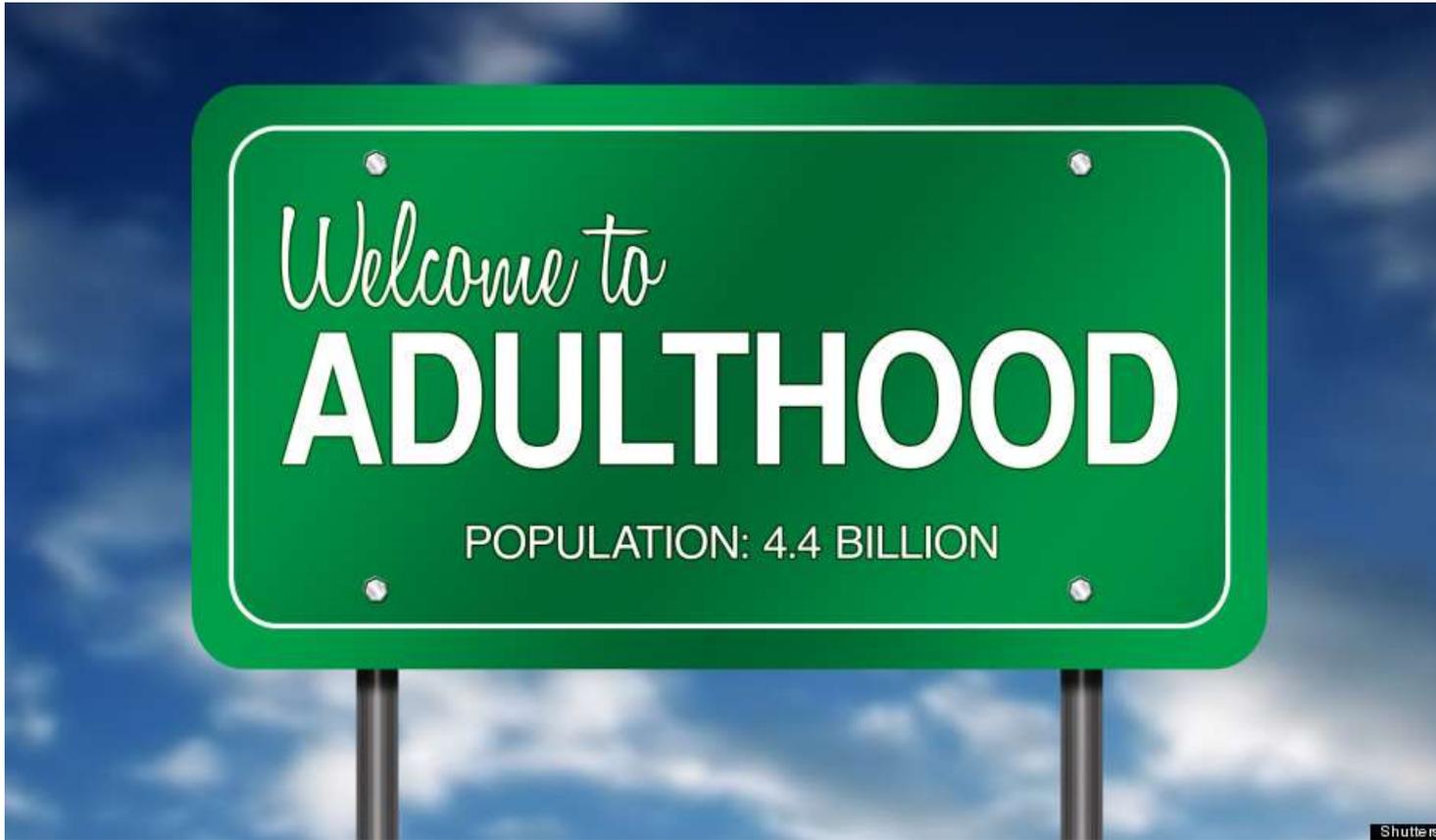
- Continue with Self advocacy
- Teach communication appropriate for work (e.g., what's appropriate to ask co-workers)
- Teach within the environment
- Teach to ask supervisors for help
- Teach to answer questions that are asked when in the community
- Teach to seeking information in the community (e.g., ask for directions)
- Teach to discriminate the appropriate communication partners for different situations
- Identify and communicate what you need to complete tasks
- Relay past experiences

Terminal Goal

Demonstrate the ability to make one's wants and needs known to naïve listeners across multiple environments.

Self Advocacy





Global Critical Skill – Adaptive Behavior

Those skills or abilities that enable an individual to meet standards of independence expected of his or her age and social group. Adaptive behavior changes according to a person's age, cultural expectations, and environmental demands. (Heward, 2005).

“Adaptive behavior will get you through times of no academic skills better than academic skills will get you through times of no adaptive behavior (Gerhardt, 2014)

Adaptive behavior is not considered one of the core symptoms of ASD and, as such, receives significantly less attention in terms of effective intervention and current research.

Adaptive behavior, age & IQ

- Pathak, Bennett, & Shui (2017) used data from the Autism Speaks ATN registry (2,538 school-aged children) to examine relationships between overall IQ and Vineland Adaptive Behavior Scale scores.
- The results indicated that younger children had significantly higher Vineland Adaptive Behavior Scale scores. The authors identified a relationship between adaptive behavior and IQ in autism and, in particular, that older children with higher IQs reported lower adaptive behavior scores.

Adaptive Behavior Competencies:

- Are not simplified curricular goals
- Are not characterized by ADL skills
- Are more complicated than inferential calculus
- Involve both simple and complex decision making skills
- Central to application of academic competencies
- Are not always highly preferred skills but, then again, some are.

Adaptive Behavior Intervention

The parameters of effective intervention in adaptive behavior include:

1. *Context* – Where instruction takes place

2. *Intensity* – How often instruction takes place

3. *Efficiency* – What is the response effort/equivalence associated with instruction

4. *Transfer of control* – Where does stimulus control lie

5. *Value* – Why might this skill be important to the student

Context

- The primary rule in the provision of effective adaptive behavior instruction is, “Teach where the behavior is most likely to be displayed.” It has been long documented that most individuals with autism do not independently generalize skills to new environments or maintain skills that are of little use in their primary environments. This again highlights the importance of context as an instructional variable.
- Further, even the youngest individuals in transition will remain in a classroom environment for, at most, the next 7 years. Upon graduation, however, they will never again be in a similar environment and, instead, must be prepared with skills and competencies that work in the environments where they will spend the rest of their lives (i.e., their neighborhoods, communities of faith, home, etc.)

Intensity

- Intensity refers to the rate of instruction across a given time period; day, week, or month.
- There is an extremely large body of research supporting that fact that a certain level of intensity is required if skill mastery is to be demonstrated with all of us.

Intensity

- By way of example, consider the 5-year old with ASD who required 1,000 trials (50 sets of 20 trials) of color identification to consistently identify all 64 colors in the Crayola box across all teachers and all environments.
- Now take the same child at age 15 with the goal being that of buying lunch at Burger King. If he is provided 1(one) instructional opportunity (i.e., trial)/week, it will take more than 15 years to provide the 1,000 trials that were necessary to acquire a relatively simple discrimination skill (color ID).
- As such, a lack of skill acquisition is often not a function of learning ability but rather insufficient intensity within our instructional protocols.

Efficiency

- Directly related to both skill generalization and maintenance is response effort and equivalence. ***This combination constitutes response efficiency which is the ease with which a task (desirable or not) can be accurately accomplished.***
- Incorporating the concept of response efficiency in instructional programming can be illustrated by the example below on cell phone use.
 - As a function of functioning level, different response efficient interventions may include:
 - *Teaching to initiate calling, dial numbers from memory, or look up in the relevant directory, or;*
 - *Teaching to dial by finding a familiar face or icon in the phone's contact directory, or;*
 - *Teaching to dial by pressing a single face or icon, out of a small number of such, on the phone's home screen, or;*
 - *Teaching simply to retain phone with him/her to allow for answering of the phone and, as appropriate, GPS monitoring.*

Transfer of Control

- A general goal of many ABA-based programs is for teachers to demonstrate stimulus control over their students and classroom.
- However, the ultimate goal of any transition program is to transfer such control from the teacher to both the environment (e.g., stop at the red light) and the individual themselves (e.g., via self management).
- Pragmatically, as individuals age and move from a ratio of 1:1 instructional support to, at best, a ratio of 4:1, the importance of transfer of control rapidly becomes clear.

Value (i.e., the MO)

- Skills that are of great value (i.e., highly preferred or have significant functional utility) to the individual tend to be skills that, once acquired, are maintained over time with little additional intervention.
- Conversely, skills that are of little value generally require significant instructional intensity both during skill acquisition and maintenance phases.
- Any effective and appropriate program of intervention needs to combine both high-value and low-value targets in such a way as to support engagement, competence, maintenance, enjoyment, and personal safety.

I don't think
we're in the
classroom any
more Toto.



Autism Spectrum Disorders in Adolescents and Adults

.....
evidence-based

IDEA (2004) Transition Definition

(34) TRANSITION SERVICES - The term `transition services' means a **coordinated set of activities** for a child with a disability that (A) is designed to be **a results-oriented process**, that is focused on **improving the academic and functional achievement** of the child with a disability to **facilitate the child's movement from school to post-school activities**, including post-secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; AND (B) is based on the individual child's needs, taking into account the child's strengths, preferences, and interests "

Behavior Analytic Intervention with Adolescents and Adults

- As individuals with autism move through the educational system, the variables that may impact effective behavior analytic intervention increase in both number and complexity. These variables tend to fall into three main categories: Staff, Student, and Resources

Staff Variables

Staff to student ratio

Absenteeism

Retention

Training of direct care staff

Training & experience of BCBA's

Competing staff interests

And so on...

Student Variables

Learning history

Communication deficits

Social deficits

Mental health Dx

Physical health

Medication side effects

Boredom

Sexuality

Sleep issues

Family concerns

And so on...

Resource Variables

Staff Variables

Student Variables

Physical access to community

Physical access to internships

Access to transportation

Acceptance of "risk"

Administration support

Systems change challenges

And so on...

Behavior Analytic Intervention with Adolescents and Adults

- Roth, Gillis, & DiGennaro-Reed (2014) conducted a meta-analysis of behavioral interventions for adolescents and adults with ASD published in a peer reviewed journal between 1992-2012. A total of 43 articles (with 110 participants) met the criteria for inclusion. Areas of intervention included:
 - Academic skills (4 studies)
 - Adaptive skills (19 studies)
 - Specific phobias (1 study)
 - Problem behavior (5 studies)
 - Social skills (8 studies)
 - Vocational skills (6 studies)

Roth, M., Gillis, J.M., & Digennaro-Reed, F.D. (2014). A meta-analysis of behavioral interventions for adolescents and adults with ASD. *Journal of Behavioral Education*, 23, 258-286

Behavior Analytic Intervention with Adolescents and Adults

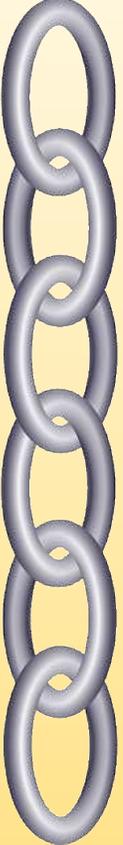
- The results indicated, overall, the research on behavior analytic intervention with adolescent and adults with ASD demonstrated a medium effect size.
- However, the authors also reported "a large gap between research and actual practice with behavioral interventions for adolescents and adults with ASD." (p. 281).
- Roth, Gillis, & DiGennaro-Reed (2014) further concluded both research design/effect size.

○ While much of the behavior analytic skill acquisition research with children with ASD may be generalizable to adolescents and adults, this is not true across all domains, interventions and environments.

○ This is because many of the skills associated with independent adulthood (e.g., personal safety, sexuality, etc.) are complex behavior chains that may, or may not, be repeated the same way every time.



For Example...



Chaining has been demonstrated as being an effective way to teach a young student the necessary behavior sequence for zipping up a jacket (e.g., Walls, Zane, & Ellis, 1981)

Zane, T., Walls, R. T., & Thvedt, J. E. (1981). Prompting and fading guidance procedures: Their effect on chaining and whole task teaching strategies. *Education & Training of the Mentally Retarded*, 16(2), 125-130.

The TA for "Zipping a Jacket" is linear and unchangeable.

Step	Variability	Production Only
1	None	Grasp the bottom edges of the front of the jacket at the base sides of the zipper with left and right hands and pull edges horizontal till zipper ends close.
2	None	Use left thumb and forefinger in pincer grasp on zipper above larger inset tooth at the bottom of the zipper.
3	None	Grasp zipper pull on right side of jacket with right thumb and forefinger in pincer grasp.
4	None	Line up edges of zipper and then move the zipper pull side under the left teeth.
5	None	Guide zipper pull hole on the left side of the pull-tab onto large guide tooth of the left side of the zipper.
6	None	Push with your right middle finger braced under the base of the zipper pull while holding the left side of the zipper so it does not move.
7	None	With right forefinger and thumb in a pincer grasp, pull the zipper pull tab up along the zipper until the slide reaches neck height

The TA for grocery shopping, however, is non-linear with variability present at multiple points throughout.

Step	Variability	Production	Social	Navigation
1	Low	--	--	Enter Store
2	Low	--	--	Locate Basket
3	Medium	--	--	Avoid walking into other shoppers
4	High	--	Engage in various social courtesies throughout	--
5	Low	Check Shopping List	--	--
6	Med		--	Move to aisle for 1 st item
7	Low	Identify item on shelf	--	Stop at item
8	Low	Place item in basket	--	--
9	Low	Check shopping list	--	--
10	Med	--	--	Move to aisle for 2 nd item

Adolescents & Young Adults with ASD,
Applied Behavior Analysis &
Community-based Intervention (CBI)

What is Community Based Intervention (CBI)?

- CBI is the consistent and systematic provision of instruction in real life settings
- CBI is a hands-on process requiring the involvement of parents and other members of the community
- CBI tends to focus on the acquisition of adaptive skills, although the application of academic skills is often included in the process

Before Developing CBI Goals

- Identify your student's skill strengths and deficits
- Identify community locations where strengths can be reinforced and deficits remediated or negated.
- If possible, conduct an observation* without your student(s) to get a more accurate idea as to what skills should be targeted for acquisition.

Conducting a “Solo” Pre-CBI Observation*

When assessing a potential CBI environment or activity, you need to look for the totality of skills that will be necessary for the independent display of skill. This includes, but is not limited to:

- **Production Skills** – Gross and fine motor skills required to complete a particular task
- **Social Skills** – Verbal and nonverbal skills the use of which is expected achieve a specific, desired outcome (e.g., Saying “excuse me” and the person moves over).
- **Navigation Skills** – Mobility skills that are functional across a majority of environments (e.g., Getting up from a movie to use the restroom and returning independently).
- **Safety Skills** – Safety skills are generally complex social skills the goal of which is to avoid, diminish, or eliminate the risk associated with community living (e.g., street crossing, abduction refusal skills, avoiding the hot stove, etc.)

Task Analyses and CBI

In developing a CBI-TA:

- Make certain the TA is the most direct, easiest way to achieve the desired outcome.
- Consider doing a CBI probe to assess your student's experience with the skill before writing the TA.
- Remember, the correct outcome is the goal and there may be a number of different paths to that outcome. This will not always be the case but it should always be a consideration.

CONSTANCE BENNETT
ROBERT MONTGOMERY

THE EASIEST WAY





CBI AND RISK

CBI and Risk

- Instruction within the walls of a school or program is a (relatively) straightforward process that takes place in a familiar, stable and safe environment.
- In the school or program there can be any number of program or environmental modifications designed to reduce the frequency problematic behavior. For example, there may be a visual activity schedule available, a timer to monitor a dense schedule of positive reinforcement, and a “cool down” area where the student can be directed when agitated. All very individualized, appropriate and, ideally, effective.

CBI and Risk

- However, very few (if any) of those modifications would be applicable during CBI so new supports will need to be identified.
- As the goal of most CBI is independence, the potential for risk will increase as supervision decreases.
- This means that even under the best of circumstances there is always risk associated with CBI.
- This means that prior to the start of CBI potential risks need to be identified and controlled for to the extent reasonable and possible.



Identifying and Controlling Risk

The first step is to complete an environmental inventory. Among the factors inventoried are:

- General layout of the building: Are there some locations that are more dangerous than others? More overcrowded than others? More distracting than others? May trigger a behavior problem? And so on.
- Location and accessibility of restrooms
- Availability of cell phone service
- Location of all entrances and exits, including emergency exits, fire alarm pulls, fire extinguishers, and so on.
- Accessibility of food and relationship to diet and allergy
- Are there areas that are too loud, too dark, too bright?
- Anything else of potential relevance to your student.



Identifying and Controlling Risk

Next, identify potential “mismatches” between student preferences, strengths and the environment.

- The identification of a potential mismatch does not automatically lead to the conclusion that the target environment should be avoided. Instead, the identification of mismatches should, whenever possible, prompt the development of interventions that may less the impact of the mismatch.
- In addition, the impact of some mismatches can be reduced simply by prior planning. For example, if a preferred restaurant is very crowded and noisy at noon, and the client in question is known to react poorly to noise and crowds, CBI could be scheduled to take place the hour before the lunch rush.

Identifying and Controlling Risk

You then need to determine (estimate) the likelihood of any identified risk impacting intervention and, if so, what is its impact? For example, if on 10% of CBI occasions at the Supermarket your student occasionally opens and starts eating a bag of Doritos before paying for it, the impact would (potentially) be judged as “low”. But, if we expected it to happen every time the client was at the grocery store, the likelihood would be judged as high and the impact greater.



Implementing CBI

Online Shopping. Because department stores don't seem to like their customers shopping braless, in stained sweats, drinking a glass of wine.



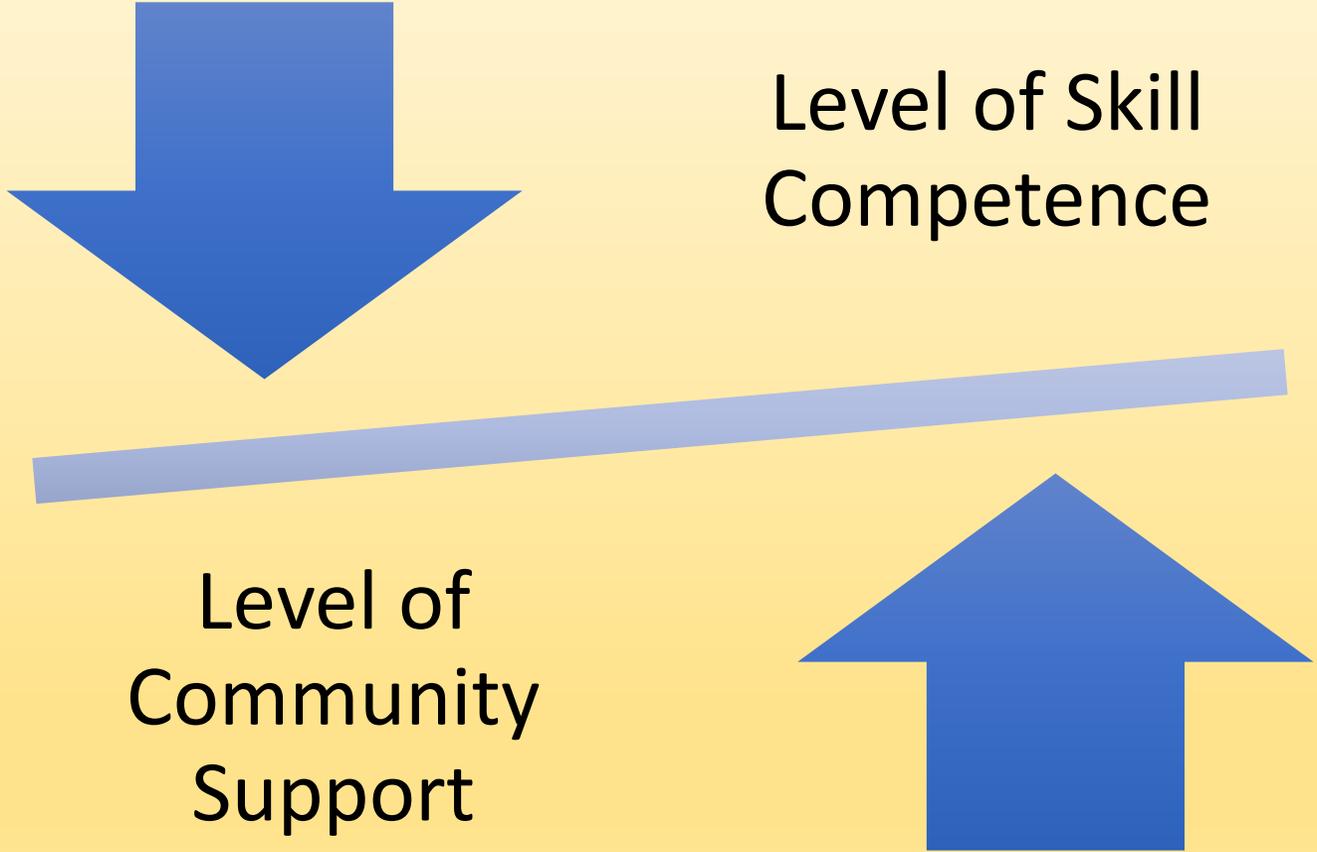
someecards
user card

CBI Goals are, more often than not, transactional

Just as it is impossible to be social when one is alone, most CBI targets require some interaction with other people in the community to be successfully demonstrated.

- It may, therefore, be useful to meet with relevant community members (store managers, supervisors, co-workers, cashiers, etc.) and explain:
 - The goal of CBI and why this is important,
 - How they can help, and
 - How often you expect to provide CBI at their location
 - Even, with permission, your student's name and preferred style of interaction .

CBI and Community Support



Determine the Frequency with Which CBI Should be Provided for Skill Mastery

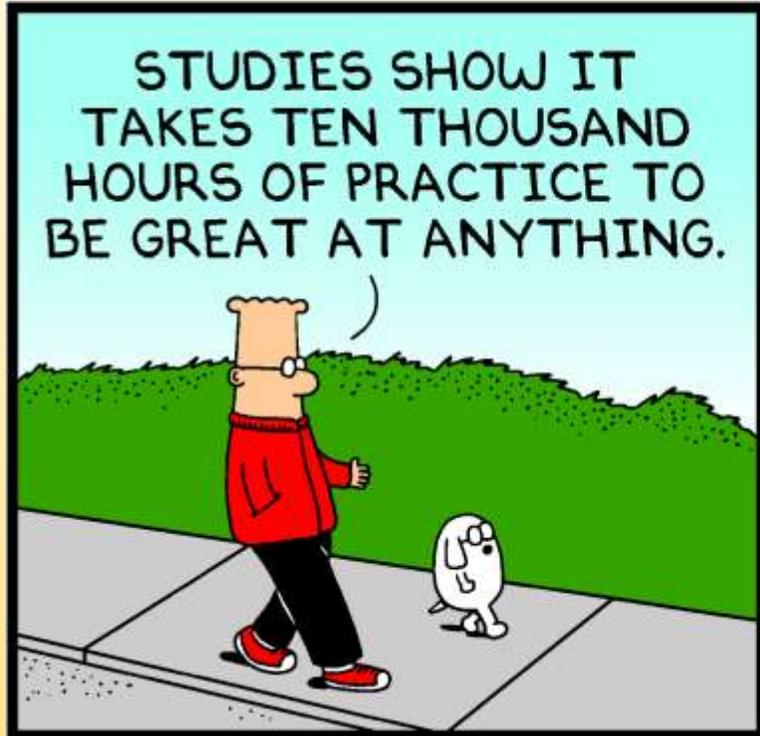
- Based upon your student's current levels of performance and learning history, make an educated estimate as to the # of learning opportunities that will be required for him/her to demonstrate mastery.
 - For example, you estimate it will take 100 CBI opportunities for your student to acquire skill "X"
 - The IEP states the skill is expected to be mastered within 6-months
 - You student will need to provided approximately 1 CBI/day ($100/110$ days = $.9/\text{day}$). If acquisition within 12 months is the goal, then you are looking at 1 CBI every other day ($100/220$ days = $.45$ trials/day) to learn the skill.
 - But whatever the estimate, the student's actual rate of skill acquisition needs to be monitored & necessary adjustments made.



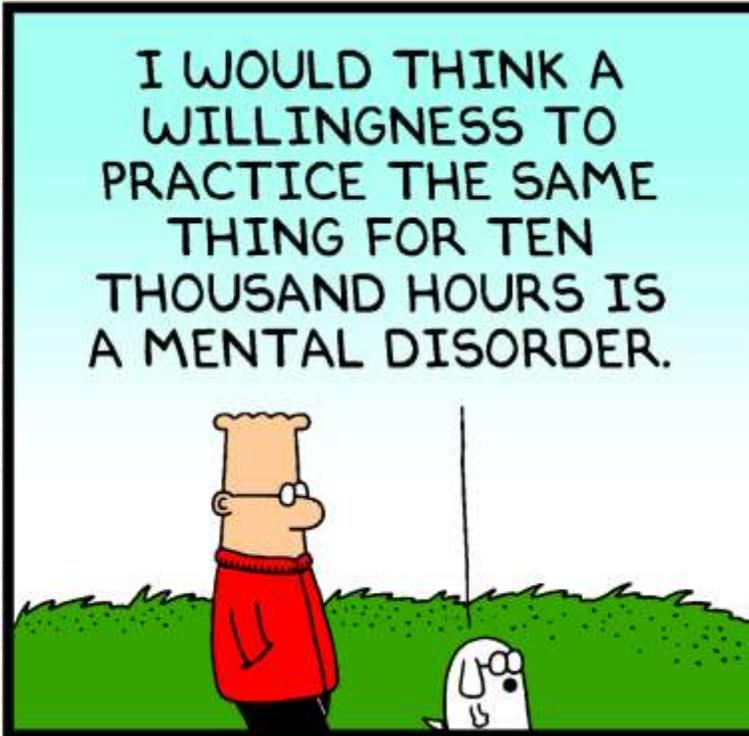
The 10,000-hours rule says that if you look at any kind of cognitively complex field, from playing chess to being a neurosurgeon, we see this incredibly consistent pattern that you cannot be good at that unless you practice for 10,000 hours, which is roughly ten years, if you think about four hours a day.

— *Malcolm Gladwell* —

AZ QUOTES



Dilbert.com DilbertCartoonist@gmail.com



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At times, “mediocrity” can be a reasonable CBI Target

Prompting During CBI

Everything you already know about prompting and prompt theory remains relevant but now needs to be evaluated in terms of social validity. This means:

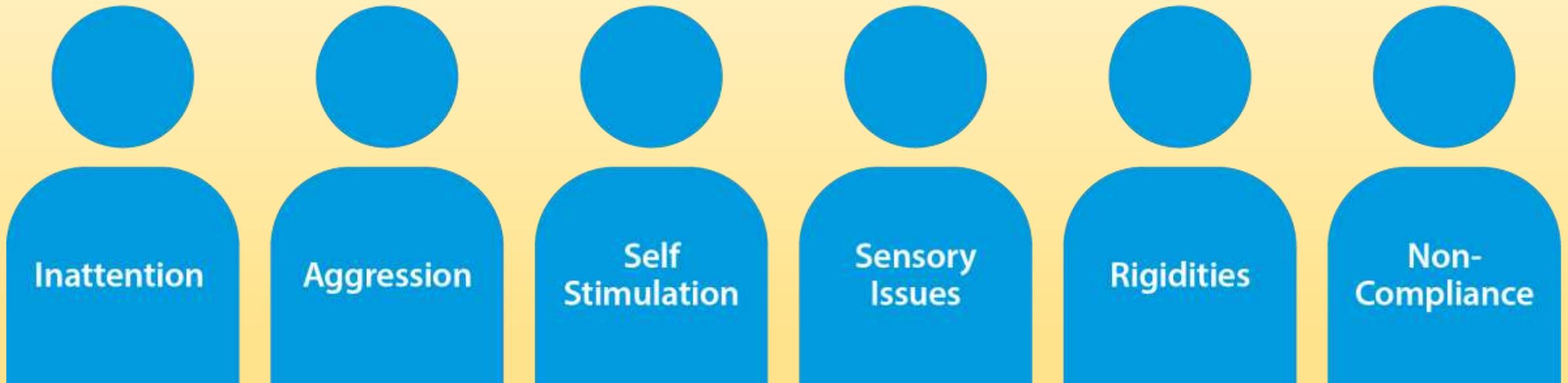
- Use the least intrusive prompt likely to be effective
- Have a plan to fade more intrusive prompts as quickly as the data allow.
- Be careful not to model prompts that, if offered by a community member, would be considered inappropriate.
- Look for, or develop, embedded prompts.
- Remember, the community generally functions on either embedded or vocal prompts. The challenge with both is how not to overuse.

Examples of Embedded Prompts



Challenging Behavior and CBI

CHALLENGING BEHAVIOR



- Source: The Autism Partnership: <http://www.autismpartnershipsg.com/en/service/our-method-and-approach-aba/>

Behavior Analytic Intervention with Adolescents and Adults

We now have over 50-years of behavior analytic research focusing on the assessment and intervention of challenging behavior. However, the vast majority of this research has been conducted in well-controlled environments with little attention paid to generalization and long-term maintenance. This means, unfortunately, that the research base for assessment and intervention in less-well-controlled environments such as the individual's home or in the community is lacking.

When it comes to the display of challenging behavior in the community...



Is this the hill
I want to die
on today?



When a challenging behavior occurs during CBI, you have 3 options from which to choose initially

Option 1: Continue with what you are doing in an attempt to work through the challenging episode.

Option 2: Briefly continue what your doing, provide reinforcement for some positive behavior, and then terminate what you are doing allowing everything to end on a positive note.

Option 3: Terminate activity or accede to demand and vacate the environment ASAP.

As a function of myriad factors, any one of the 3 options might be the best option at that particular time in that particular situation with that particular student.



TIPS & TRICKS

IMPORTANT NOTE

Given the diversity of community conditions beyond your control, remember:

- One episode does not constitute anything other than an anecdote. Patterns are important. Any one episode, probably not.
- Given that, please be aware of two established psychological phenomena that WILL impact your interpretation of any episode in the community: Superstitious Learning and Cognitive Bias.

Superstitious Learning

In his Ted-Ed Talk, Stuart Vyse discusses superstitious learning as being the result of our tendencies to "over-recognize" coincidences, develop rituals to fill time, and our desire to establish a "certainty" where, previously, only uncertainty existed. Most superstitious learning outcomes are harmless yet some can be debilitating.

When it comes to the causes or functions of challenging behavior, superstitious learning may lead us such potentially faulty beliefs such as:

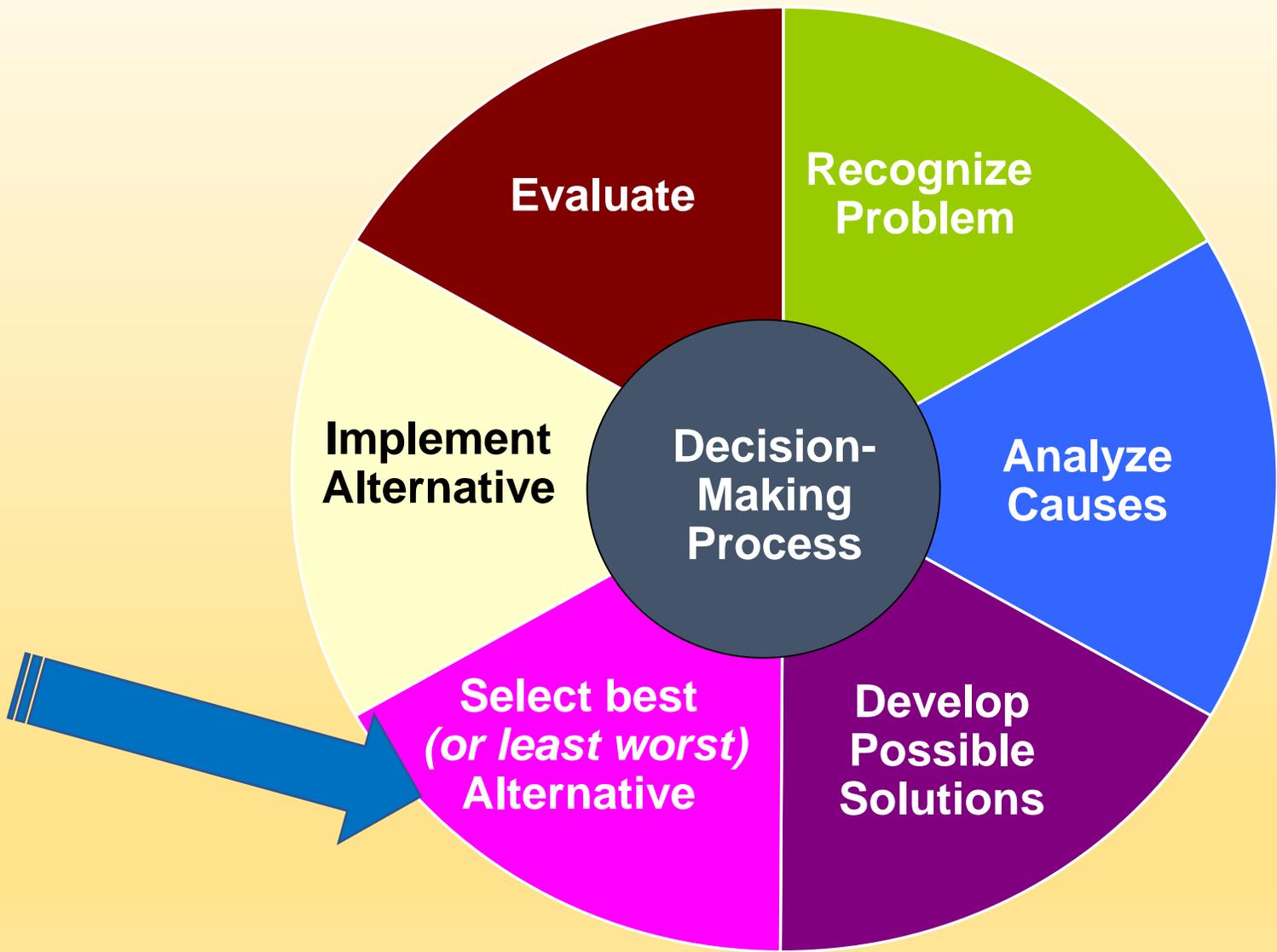
- *He was looking right at me when it occurred so it must be an attention seeking behavior.*
- *Everything was fine until another shopper at the deli counter just wouldn't get off her phone.*
- *He does that because of puberty and hormones.*
- *And so on, and so on, and so on....*

Cognitive Bias

Cognitive bias is an established & systematic pattern of deviation from rationality in judgment. Individuals create their own "subjective social reality" based on their perception of events or actions that impacted them. Over time, we build a conceptual social reality that is not based on objective input and dictates our behavior in certain situations. While some cognitive biases are understood as being adaptive, (e.g. they allow us to respond faster in certain situations), cognitive biases also facilitate inaccurate judgment, illogical interpretation or irrationality. In other words, they built upon superstitious learning.

All things considered, objective data are your best friend. This is not about you or about me. It is about your child, student or adult consumer. As Fred Keller said, "The student is always right." We need to carefully listen to him or her.

**SEEING IS NOT BELIEVING,
BELIEVING IS SEEING.
YOU SEE THINGS
NOT AS THEY ARE,
BUT AS YOU ARE.**
(Eric Butterworth)



**A general model for
decision making during
CBI**

Tips and Tricks

(Before the Challenging Episode Begins)

- **Don't be stupid.** Know the limits of your own abilities and stay within them.
- Plan ahead. If you are going to a new location, activity or event, find someone who has been there before and ask such questions as: “Where are the bathrooms?” or “Will there be any food?” “Will there be any cell phone service on my carrier?” If that is not possible, try online resources including Facebook.
- Have a plan and, whenever possible, stick with the plan. This includes making sure his/her I-Pad is charged before you leave the house/school.

Tips and Tricks

(Before the Challenging Episode Begins)

- Know what it is you want to accomplish with your student. Share your plan with them.
- Avoid the busiest times to go certain places.
McDonalds at 11:00 AM is a much calmer place than McDonalds at 12:00.
- Insanity is doing the same thing over and over again and expecting different results (*Einstein*). Learn from your past mistakes and make an effort to change your behavior.

Tips and Tricks

(Before the Challenging Episode Begins)

- Make sure supportive teaching plans are in place for the individual to develop such skills as waiting, tolerating noise/crowds, staying with a known adult, relaxation, or functional/alternative communication.
- Expect the best. Prepare for the worst.
- **Having said all this, don't allow yourself to be overly cautious. Fear shapes our behavior amazingly well but you child, student, or adult consumer learns nothing when all we do is avoid difficult situations.**

Tips and Tricks

(When things are starting to get rough...)

- Maintain a consistent schedule of positive reinforcement and preferred social interaction.
- Always know where you are in that particular environment and, of course, where your child, student or adult consumer is. Always know where the EXIT is located.
- Be aware of who else may be in a particular environment. Be aware of the potential of new environmental “exciters” to be introduced (e.g., giving away samples at the supermarket).
- Look for any established environmental triggers.

Community- Based Tips and Tricks

(When you are already there...)

- Always provide positive reinforcement for compliance to your directions. Avoid thinking “He’s supposed to do that anyway so I shouldn’t have to say/do something.”
- Pay attention to the individual and his/her affect, display of potential precursors, or other signs of agitation.
- Pay attention to the individual and his/her affect including signs of happiness, joy, excitement, etc. Work to build upon these.
- Remember, you are shaping behavior and no one goes from 0% to 100% overnight.

Community- Based Tips and Tricks

(When you are already there...)

- Response effort needs to be commensurate with the expected outcome and potential reinforcement.
 - If not, is there an easier, faster way to achieve the same goal?
 - If not, is this a sufficiently important goal that it needs to be implemented right now?
 - If not, is there something about instruction that can be changed to increase value of the task or potential reinforcement?

CBI Summary

- Community based instruction (CBI) is an evidence-based intervention that is essential for community independence.
- When CBI is provided with sufficient frequency for individuals to acquire independent skills, community integration can be a unplanned for, but very welcome, ancillary outcome.
- Only by leaving our classrooms, clinics, programs or adult centers and providing intensive CBI will students be able to acquire the skills associated with safe lives of competence, dignity, and quality.
- CBI, however, is not without risk. Arguably, these risks can never be fully eliminated but with prior planning, regular practice, and a high level of situational awareness the challenges can be minimized and the risk effectively managed.

Bringing it All Together





Individualized ASD Transition Planner

Student: Spencer Rodriguez

Date: April 1, 2017 Meeting Facilitator: P Gerhardt

Contributors

Angela Rodriguez, Spencer's Mother

Anna F., Classroom Teacher

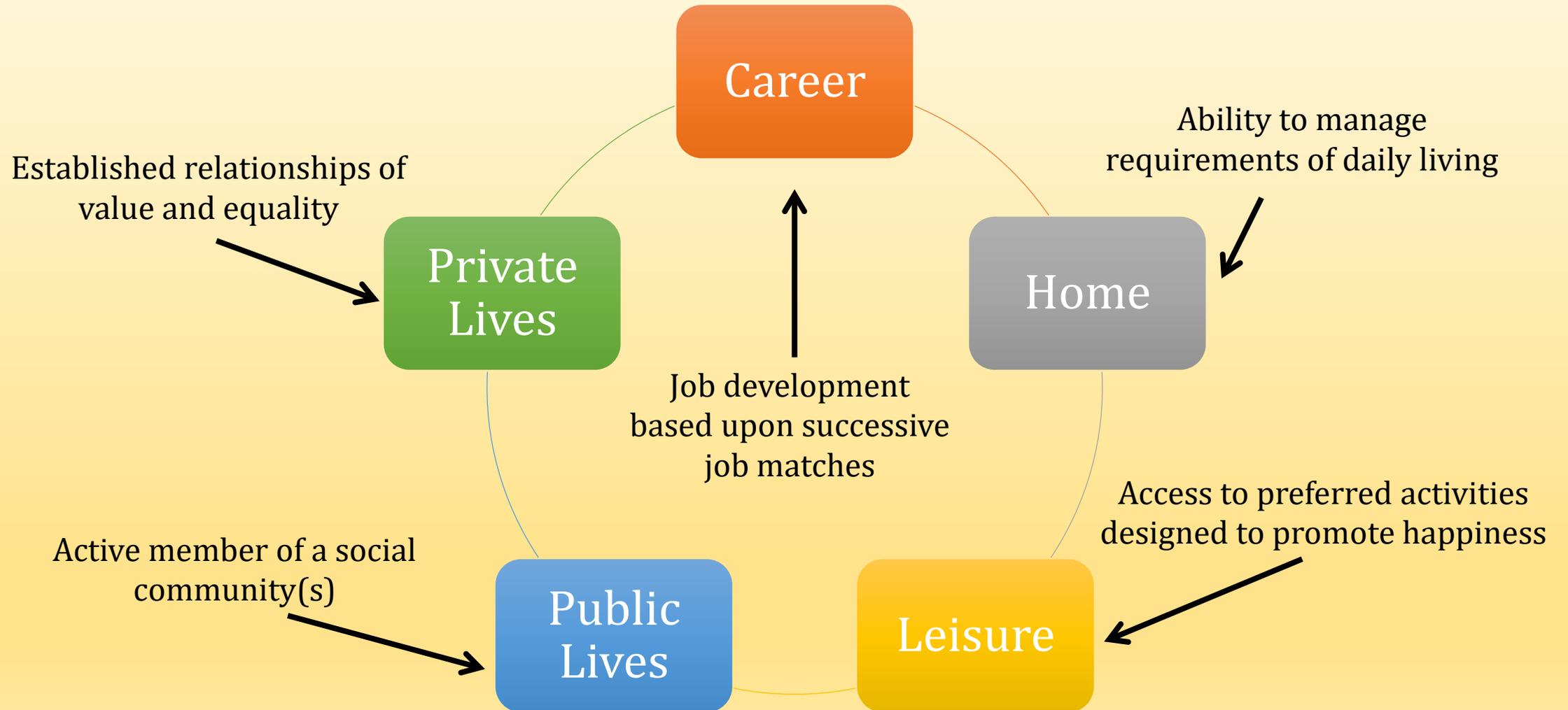
Cris B., Education/Behavior Specialist-BCBA

JoAnne E., SLE/Transition Coordinator

Peter G. Executive Director

Next Meeting : June 2018

Transition Areas of Focus



Over the course of this plan, we want to focus on some relevant cohort of essential skills

Central to the EPIC 5-Year Plan is the focus on the development of what are categorized as the essential skills across five, basic environments.

These include those skills that:

- ❑ **When acquired, enable the individual to independently complete a variety of relevant tasks and engage in desired activities.** *In behavior analytic terms, these might best be understand as behavioral cusps.*
- ❑ **Have the potential to be used with sufficient frequency to remain in the individual's repertoire.** *The exception here are safety skills which, ideally, are low response frequency skills.*
- ❑ **Can be acquired within a reasonable time frame.** *If it is likely that a critical skill will not be acquired in a reasonable time frame, functional accommodations or modifications to the skill or the target environment should be identified, considered, and implemented as appropriate.*

Define “Independence” for this Individual

- For this individual, does independence mean
 - Able to follow an activity schedule that is developed by parent or staff?
 - Able to follow an activity schedule that is developed by the individual?
 - Does own laundry when directed to do so?
 - Does own laundry when it is laundry-day or the laundry basket is full?
 - Shops for a 10-item grocery list with parent/ staff following along “just in case”?
 - Shops for a 10-item grocery list with parent/staff waiting at the front of the store?
 - Shops for a 10-item grocery list with parent/staff waiting in the car?
 - Seeks assistance when needed in contrived situations?
 - Seeks assistance when needed in novel situations?
 - Correctly solves most problems without seeing assistance?

Student's Transition Statement

In 5-years-time Spencer will be 20-years old and will be “ready” as if he is transitioning to live on his own. This includes independent in self-wakening, **showering**, dressing, **toileting**, tooth-brushing, laundry, cooking, and other general life skills. He will independently follow a schedule of activities for up to 8-consecutive hours. Spencer will demonstrate personal responsibility related to maintaining his room neatly, purchasing correct size clothes, keeping inventory for food shopping, etc. In terms of the community, Spencer will be able to shop for himself (including meals) and other necessities and preferences. He will be able to independently navigate increasingly greater distances community to participate in community living. Spencer will be able to distinguish good vs bad touch and discriminate different relationship roles (Mom vs. Friend vs. Staff vs. Acquaintance vs. Stranger). He will be able to use his **smartphone** to make and receive calls and texts, contact someone for help, describe his location to another person (or use “send location” function) and, when appropriate, kill some time playing a game. Spencer will be interning at a job requiring attention to detail (assembling motherboards). He will be able to work for 90-minutes independently and check his completed work for accuracy. He will respond to directions from his supervisors and socially interact to whatever degree appropriate with his coworkers. He will make lunch for work or purchase lunch at work as appropriate. Spencer will be able to initiate independent choices with regard to leisure activities which may include team bowling, going to arcade, playing mini-golf, or hanging at the mall.

Sphere of Intervention: Career

In order to be gainfully employed Spencer E. needs the following programs/skills to be targeted.

Skill	Challenge	Recommendation
<p>Ability to work productively for 90 minutes with a production rate commensurate to other employees, on an assembly task requiring significant attention to detail (e.g. assembling mother boards)</p>	<ul style="list-style-type: none"> • Spencer can follow an activity schedule but the extent to which he is fully engaged during that time is not documented. • Need to locate training tasks of targeted detail and complexity. 	<ol style="list-style-type: none"> 1. Assess actual duration of productive engagement and rate of productivity during that time. Develop instructional program to systematically increase both by 2/18 2. Coordination with SLE Coordinator to locate required tasks. Provide intensive intervention in production skills by 2/18 3. Provide Spencer with tasks that involve both seated work and tasks that involve him moving around various locations within the building during the same activity schedule 4. Monitor Spencer either by video camera or covertly to ensure he remains engaged when he thinks he is not being watched by a teacher
<p>Check completed work for quality control with 100% accuracy.</p>	<ul style="list-style-type: none"> • Spencer is currently unable to identify “correct” vs “incorrect” completion of large numbers of completed work. 	<ol style="list-style-type: none"> 1. Develop and implement instructional program to teach this discrimination as last step in production skill chain by 6/18
<p>Stop work when short of supplies and either retrieve on own or seek assistance.</p>	<ul style="list-style-type: none"> • This skill seems well within Spencer’s current range of competence if not yet specifically taught. 	<ol style="list-style-type: none"> 1. Assess skill across multiple tasks and provide intervention if necessary by 2/18 2. When out of materials, Spencer should first be taught to find more on his own, then to ask for help
<p>Socially interact with supervisor and co-workers</p>	<ul style="list-style-type: none"> • Spencer has a limited, and inconsistently displayed, social repertoire. 	<ol style="list-style-type: none"> 1. Revisit direct instruction and collect accurate/consistent data on initiation of greeting, latency to respond to greeting, and accuracy of response by 2/18 2. I recommend this be targeted everyday because it such an important skill in the work place AND it is feasible skills for Spencer. He should also work on engaging in ‘small talk’ and knowing when/how to interrupt.

Sphere of Intervention: **Career**

In order to be gainfully employed Spencer E. needs the following programs/skills to be targeted.

Skill	Challenge	Recommendation
Purchase a realistic variety of food for lunch at work and eat neatly	<ul style="list-style-type: none">• Spencer currently eats a limited array of foods and very little in the way of protein.	<ol style="list-style-type: none">1. A program designed to address food preferences was discussed at December Clinic and will be implemented in 1/182. Assess social "niceties" at mealtime.
Safety at work including public restroom use, responding to fire alarms, responding to supervisor, use cell phone to report location, etc.	<ul style="list-style-type: none">• Public restroom is a current target of instruction and is practiced in vivo.• The extent to which Spencer independently vacates premises in response to alarm is unknown.	<ol style="list-style-type: none">1. Spencer will be have his own cell phone starting 1/18 and cell phone competencies can be addressed then.2. Assess independent response to fire alarm in 1/183. Develop assertive responding program.

Sphere of Intervention: Home

Within his home, Spencer E. should be able to independently (or with minimal supports), accomplish the following.

Skill	Challenge	Recommendation
Spencer needs to independently wake himself up in the morning and complete his AM routine.	<ul style="list-style-type: none"> A new skill and so needs to be assessed. He does, however, demonstrate the ability to respond to an alarm (timer) which is a prerequisite skill. 	<ol style="list-style-type: none"> Probe responding to a morning alarm at home Develop a list of morning activities Spencer needs to complete
Spencer needs to independently complete a number adaptive tasks at home including laundry, cooking, loading dishwasher, making bed, maintaining room neatly, etc.	<ul style="list-style-type: none"> Given the number of skills some prioritization will need to take place. Identification of "normative" mastery outcomes for each skill. May need to be incorporated into activity schedule with initiation being of function of schedule. 	<ol style="list-style-type: none"> Continue teaching additional sight words that can be incorporated into Spencer's activity schedule. These should include activities of daily living. New set includes "make lunch", "make copies", "shred", "do laundry", "empty / load dishwasher"
Spencer needs to independently complete a number hygiene skills at home including showering, shaving, and brushing his teeth.	<ul style="list-style-type: none"> Given the number of skills some prioritization will need to take place. Showering currently being taught at home by father. Can EPIC provide additional intervention once new shower is installed? 	<ol style="list-style-type: none"> Spencer is currently being taught to shower more independently in school. When the new shower is installed there will be more frequent opportunities to practice and develop individualized protocols. The shower at the life skills house is available for Spencer to practice everyday.
Spencer needs to follow a 2-hour activity schedule when at home.	<ul style="list-style-type: none"> Some of the tasks that could be included in a full, 2-hour schedule will need to be taught separately first. 	<ol style="list-style-type: none"> Continue to expand on his current activity schedule at an estimated rate of 1 activity/month? 2 activities/month. Let's try to quantify this.
Spencer needs to expand the list of meals he makes for himself. Focus on choice plus nutrition.	<ul style="list-style-type: none"> Spencer currently eats a limited array of foods and very little in the way of protein. When additional preferred foods are identified instructional programs can be developed. 	<ol style="list-style-type: none"> Family to send in a variety of foods (meatballs, chicken, pasta with sauce, etc.). Follow up with family no later than 1/19/18 School can work on introducing these foods

Sphere of Intervention: **Leisure**

Spencer E. should be able to independently (or with minimal supports), access and utilize the following leisure skills.

Skill	Challenge	Recommendation
Spencer will participate in NJ Special Olympics	None, specifically.	1. Research website for further information and provide family with info by 1/19/18
Spencer may participate in an inter-ABA-School bowling league.	League needs to be developed. Possibility will be investigated by ED in 1/18	
Spencer will expand his repertoire of preferred video games (monitor or arcade based).	The challenge will be to find preferred, enjoyable games.	1. Continue with learning for leisure which includes trips to arcades. Follow up to make certain data are being consistently collected.
Spencer needs to use smart phone app to kill time when waiting for an activity or "hanging at the mall"	Spencer will have a personal smart phone in 1/18.	1. When phone is obtained begin introducing new games or other activities and instruction if necessary.
Spencer will continue running with staff and family and continue his participation in Spartan Runs.	Generally requires organization and travel support of staff or family.	1. Continue to collaborate with family for continued participation
A repertoire of independent and accessible leisure skills should be developed.	Needs to be more systematically investigated to identify characterizes of potential leisure activities.	1. Continue introducing more activities at school, home, and during learning for leisure. Independence and preference will be used as indicators of "leisure".

Sphere of Intervention: **Community**

Spencer E. needs to be able to access, or utilize, the following skills with minimal prompting.

Skill	Challenge	Recommendation
Spencer will be able to purchase his own clothes by size and color.	<ul style="list-style-type: none">• Does not currently have ability to state his size and locate size in store.• Consider targeting one store and one brand of clothes to assure correct size and match.	<ol style="list-style-type: none">1. Determine sizing information for various types of clothes2. Probe current ability to make an appropriate clothing selection (based on weather, sizing, style, etc.) by 1/31/18
Independently navigate increasingly greater distances (i.e., malls).	<ul style="list-style-type: none">• Currently walks appropriately with staff in community but true independence has not been tested.• Community locations where can establish and practice skill need to be identified.• Definition of “great distance”• Cell phone use should be mastered first.	<ol style="list-style-type: none">1. When phone has been obtained begin teaching texting and resume teaching phone calls.2. Develop criteria for increasing independence in the community including obtaining risk consent by 1/31/18
Use cell phone either vocally describe location to another person or text location	<ul style="list-style-type: none">• Spencer will have personal cell phone in 1/18.• Instruction in providing vocal description may be difficult. “Text My Location’ may be a better option.• Will require a significant intensity of instruction and ongoing probes to ensure maintenance of acquired skills.	<ol style="list-style-type: none">1. When phone has been obtained reintroduce reporting location verbally and begin teaching texting from a model..
Stranger/Friend Discrimination.	<ul style="list-style-type: none">• Need to determine how many categories of people and the rules for each.	<ol style="list-style-type: none">1. Collaborate with family to identify rules for each set of people and under what circumstances. Implement instruction by 2/1/18

Family Responsibility in Support of Transition Programing

AREA	RESPONSIBILITY
Career	<ol style="list-style-type: none"> 1. Coordinate with EPIC a program to expand Spencer's food preferences across environments
Home	<ol style="list-style-type: none"> 1. Prioritize skills at home to be taught first, second, etc. 2. Expand current activity schedule by both time and activity.. 3. Coordinate with EPIC, if desired, regarding Spencer showering program once the new teaching shower in installed. 4. Expand upon current food preferences. 5. Prioritize and provide direct and consistent instruction in a number adaptive tasks including laundry, cooking, loading dishwasher, making bed, maintaining room neatly, etc. 6. Prioritize independent completion of a number hygiene skills at home including showering, shaving, and brushing his teeth.
Leisure	<ol style="list-style-type: none"> 1. Coordinate with EPIC on development of Bowling League 2. Make contact with Special Olympics and find out what requirements for participation. 3. Continue running and Spartan Runs 4. Coordinate with EPIC on the identification of preferred electronic games, etc.
Community	<ol style="list-style-type: none"> 1. Identify sizes and preferences for clothes shopping. This is a low frequency skill but an important one nonetheless. 2. Coordinate with EPIC on instruction in cell phone use and generalized application 3. Coordinate with EPIC on determining boundaries and rules for family v. friend, v. co-worker, v. stranger.
School	<ol style="list-style-type: none"> 1. Continue monitoring implementation of this plan

EPIC's Responsibility in Support of Transition Programing

AREA	RESPONSIBILITY
Career	<ol style="list-style-type: none"> 1. Assess duration of productive engagement and rate of productivity during engaged time. Develop instructional program to systematically increase both by 2/18 2. Coordination with SLE Coordinator to locate complex, high detail tasks. Provide intensive intervention in production skills starting in 2/18. Emphasis on engagement, rate, and quality control. 3. Develop and implement instructional program to teach quality control/self-correction of production skills chain by 6/18 4. Revisit direct instruction and collect accurate/consistent data on initiation of greeting, latency to respond to greeting, and accuracy of response by 2/18 5. Develop and implement program designed to expand food preferences as was discussed 6. Begin assessment of cell phone use skills in 1/18 7. Assess independent response to fire alarm in 1/18 8. Develop assertive responding program (e.g., a functional and appropriate “no”)
Home	<ol style="list-style-type: none"> 1. Coordinate and cooperate with family as requested.
Leisure	<ol style="list-style-type: none"> 1. Coordinate with family re: Special Olympics 2. Investigate potential of bowling league 3. Complete preference assessment for different video games including identification of smart phone games.
Community	<ol style="list-style-type: none"> 1. Provide instruction in cell phone use in community 2. Identify locations in which Spencer can safely be taught independence across greater distances.. Develop program and provide intervention. 3. Evaluate interpersonal discriminations to establish social/behavioral rules for each and practice in natural environment .

Desired community Responsibility in Support of Transition Programing

AREA	RESPONSIBILITY
Career	1. Allow initial internship/SLE opportunity
Leisure	1. Encourage more social inclusion in Spartan Run and community running. A local running group, perhaps?
Community	1. Accept feedback and instruction from EPIC and Family regarding best way to interact with Spencer in the community.

Resource Mapping

Resource Mapping is a **process** of identifying and linking community resources with agreed upon individual goals and preferences.

Resource mapping can be used to:

- Identify available community resources
- Enhance services
- Identify additional funding supports
- Align young adult with available community supports
- Use data to make informed decisions
- Cultivate new partnerships and relationships over time by supporting or “giving back” to targeted organizations.**

QUALITY

OF LIFE?

Top 10 Places to Live for QOL

n

- ① Madison, Wisconsin.
- ② Lincoln, Nebraska
- ③ Minneapolis, Minnesota
- ④ St. Paul, Minnesota
- ⑤ Omaha, Nebraska
- ⑥ Buffalo, New York
- ⑦ Lexington, Kentucky
- ⑧ Lubbock, Texas
- ⑨ Fort Wayne, Indiana
- ⑩ Fremont, California

But I live in Weehawken NJ



The point is, QOL is a Complex Construct



A useful, and somewhat measurable, definition of QoL

Quality of life (QOL) is a term used to describe a ***temporal condition of personal satisfaction*** with such core life conditions as physical well-being, emotional well-being, interpersonal relations, social inclusion, personal growth, material well-being, self-determination, and individual rights. (Wehmeyer & Schalock, 2001)

Wehmeyer, M.L. & Schalock, R.L. (2001). Self determination and quality of life: Implications for special education services and supports. *Focus on Exceptional Children*, **33**, 1-16.

So now there are more variables to consider

“Life Condition”	Indicator	Challenge
Physical Well Being	Access to health care, Exercise, Preventative Care	Access to quality health care for adults with DD is difficult, at best
Mental Health	Access to mental health care, Effective treatment plans	Access to MH-care is poor & meds overused to treat symptoms, not underlying diagnoses.
Interpersonal Relations	Friends, activities, trips, etc.	Most adults with ASD not included in their social communities
Social Inclusion	Employment as status, Group Identity.	The primary social group to which adults with ASD belong is that of staff and people with ASD.
Personal Growth	Experience new things. Life-long learner.	After graduation, active education tends to cease.
Material Well Being	Sufficient fiscal resources to achieve goals	How do we develop and honor goals?
Self Determination	Choice and control of things that impact life	Intersection of freedom X risk X safety X dignity X so on and so on.
Personal Rights	Voting. Privacy. Respectful interactions.	Similar to above. We often misplace the concept of “rights” with adults.

But in ASD, while the concept of quality of life has been used for over 30 years in the field of intellectual disabilities, the factors contributing to quality of life of persons with ASD have received relatively little attention (Renty & Roeyers, 2006) in the literature and in practice.

Renty, J.O., & Roeyers, H. (2006). Quality of life in high-functioning adults with autism spectrum disorder: The predictive value of disability and support characteristics. *Autism*, 10, 511-524.

Much of the research on QOL and ASD has focused on a limited number of aspects of adult life (e.g., employment) and primarily on quantitative aspects of these few domains (e.g., employed v. employment satisfaction). QOL, however, is much more complex state of being (Van Heijst & Geurts, 2015).

Van Heijst, B.F.C., & Geurts, H.M ((2015). *Quality of life in autism across the lifespan: A meta-analysis*. *Autism: The International Journal of Research and Practice*, **19**, 158-167.

Van Heijst & Guerts, (2015) recently completed a meta-analysis on the topic of QOL and adults with ASD. An extensive literature review ***identified a total of 10 peer reviewed studies published on 2004-2012.*** The results indicated that the quality of life is significantly lower for people with autism when compared to their typical peers. Age, IQ and symptom severity did not predict quality of life in this sample. Across the lifespan, people with autism experience a much lower quality of life compared to people without autism.

Van Heijst, B.F.C., & Geurts, H.M ((2015). *Quality of life in autism across the lifespan: A meta-analysis.* Autism: The International Journal of Research and Practice, **19**, 158-167.

However...

Parsons (2015) conducted an online survey designed to solicit the views of adults with ASD about current life satisfaction. Fifty-five respondents, most of whom attended mainstream schools and were diagnosed later in life, completed the survey.

Respondents were least satisfied with their current employment situation and most satisfied with personal relationships. There was substantial individual variation in responses demonstrating the importance of respecting personal views, circumstances and aspirations. This is significant as little is known about the actual views of adults with ASD on QOL and that, in general, "good outcomes" in adult life are often judged according to normative assumptions of quality.

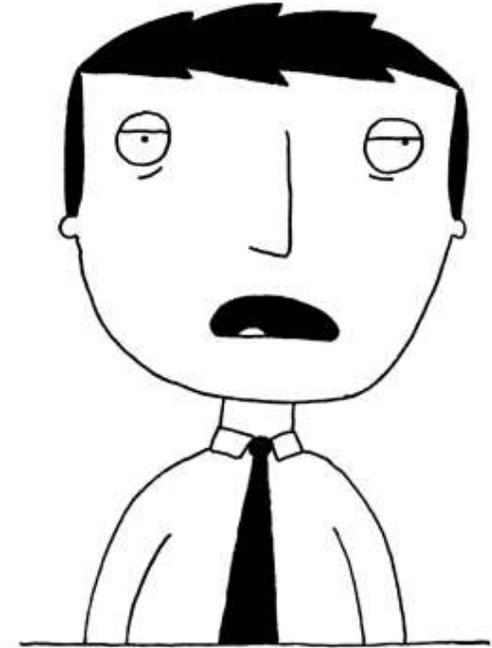
Parsons, S., (2015). *"Why Are We an Ignored Group?" Mainstream Educational Experiences and Current Life Satisfaction of Adults on the Autism Spectrum from an Online Survey*. *International Journal of Inclusive Education*. **19**, 397-421

Closing thoughts

Despite our best efforts, these 3 hours were still only a brief overview of the issues related to ABA & Adults w/ ASD.

- We didn't even touch on such topics as:
 - Sexuality
 - Working with parents of older individuals
 - Behavior analysis and mental health
 - Healthcare transition
 - Aging and ASD
 - Employment
 - Transportation
 - Quality of Life
 - Leisure
 - And so on..

ADULTHOOD



"IF YOU'RE NOT TIRED,
YOU'RE NOT DOING IT RIGHT."

Here's what I know about the future:
it happens as a result of what we do today.



Read this article

JOURNAL OF APPLIED BEHAVIOR ANALYSIS

1990, 23, 79–89

NUMBER 1 (SPRING 1990)

BALANCING THE RIGHT TO HABILITATION WITH THE RIGHT TO PERSONAL LIBERTIES: THE RIGHTS OF PEOPLE WITH DEVELOPMENTAL DISABILITIES TO EAT TOO MANY DOUGHNUTS AND TAKE A NAP

DIANE J. BANNERMAN, JAN B. SHELDON, JAMES A. SHERMAN,
AND ALAN E. HARCHIK

UNIVERSITY OF KANSAS

In the pursuit of efficient habilitation, many service providers exercise a great deal of control over the lives of clients with developmental disabilities. For example, service providers often choose the client's habilitative goals, determine the daily schedule, and regulate access to preferred activities. This paper examines the advantages and disadvantages of allowing clients to exercise personal liberties, such as the right to choose and refuse daily activities. On one hand, poor choices on the part of the client could hinder habilitation. On the other hand, moral and legal issues arise when the client's right to choice is abridged. Recommendations are offered to protect both the right to habilitation and the freedom to choose.

DESCRIPTORS: developmentally disabled, ethics, client rights, choice behavior, mentally retarded

“Applied” is what distinguishes ABA from the Experimental Analysis of Behavior (EAB)

- It seems that as a field we have had a multi-decade love affair with the terms “**Behavior**” and “**Analysis**”. The term “Applied” however has been treated more like a Friend-with-Benefits who we call upon when we think no one is looking.
- Yet the **Applied** aspect of our science is, in our opinion, equal in importance to **Behavior** or **Analysis**.
- When our classrooms become indistinguishable from a clinic or research setting we are, perhaps inadvertently, diminishing the relevance and central importance of **Applied** in the development of generalizable skills that are maintained over time.

Keep in Mind Cooper, Heron & Heward's (2007) Three Questions

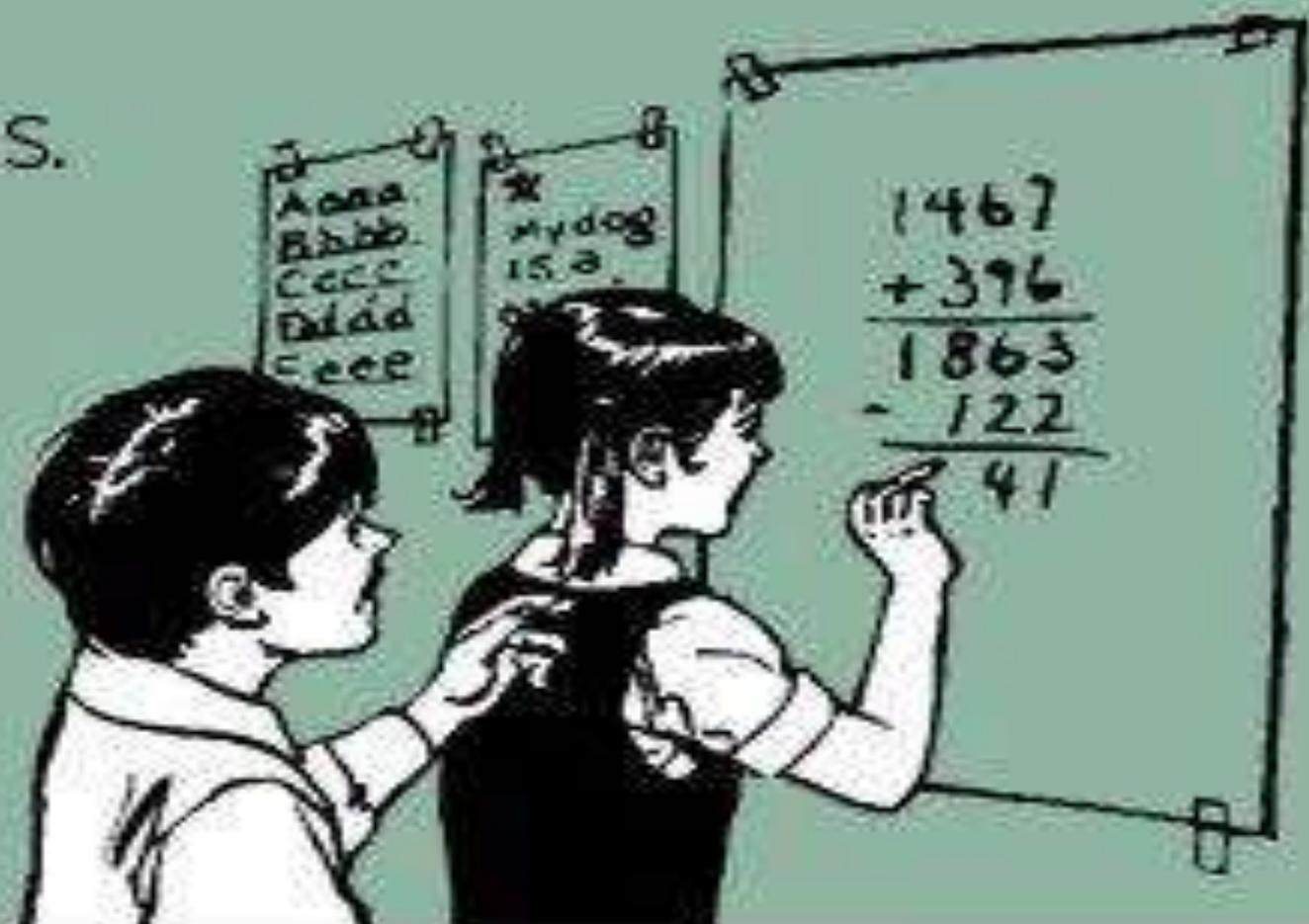
When approached with a questionable situation or ethical concerns, behavior analysts should rely on three (3) specific questions (Cooper, Heron, & Heward, 2007).

- What's the right thing to do? – *This, essentially, is a question of values and evidence-based practice and the point where discussion often gets bogged down.*
- What's worth doing? – *This, too, is a question of values as the answer can only be arrived at by assessing personal effort leading to expected client outcome.*
- What does it mean to be a good BCBA? - *This is the question that forms the core of our professional ethics.*

Billy has 32 pieces of bacon. He eats 28. What does he have now?

Happiness.

Billy has happiness.





Moira Gibbons

DON'T DREAM IT,
BE IT.



Moira Gibbons

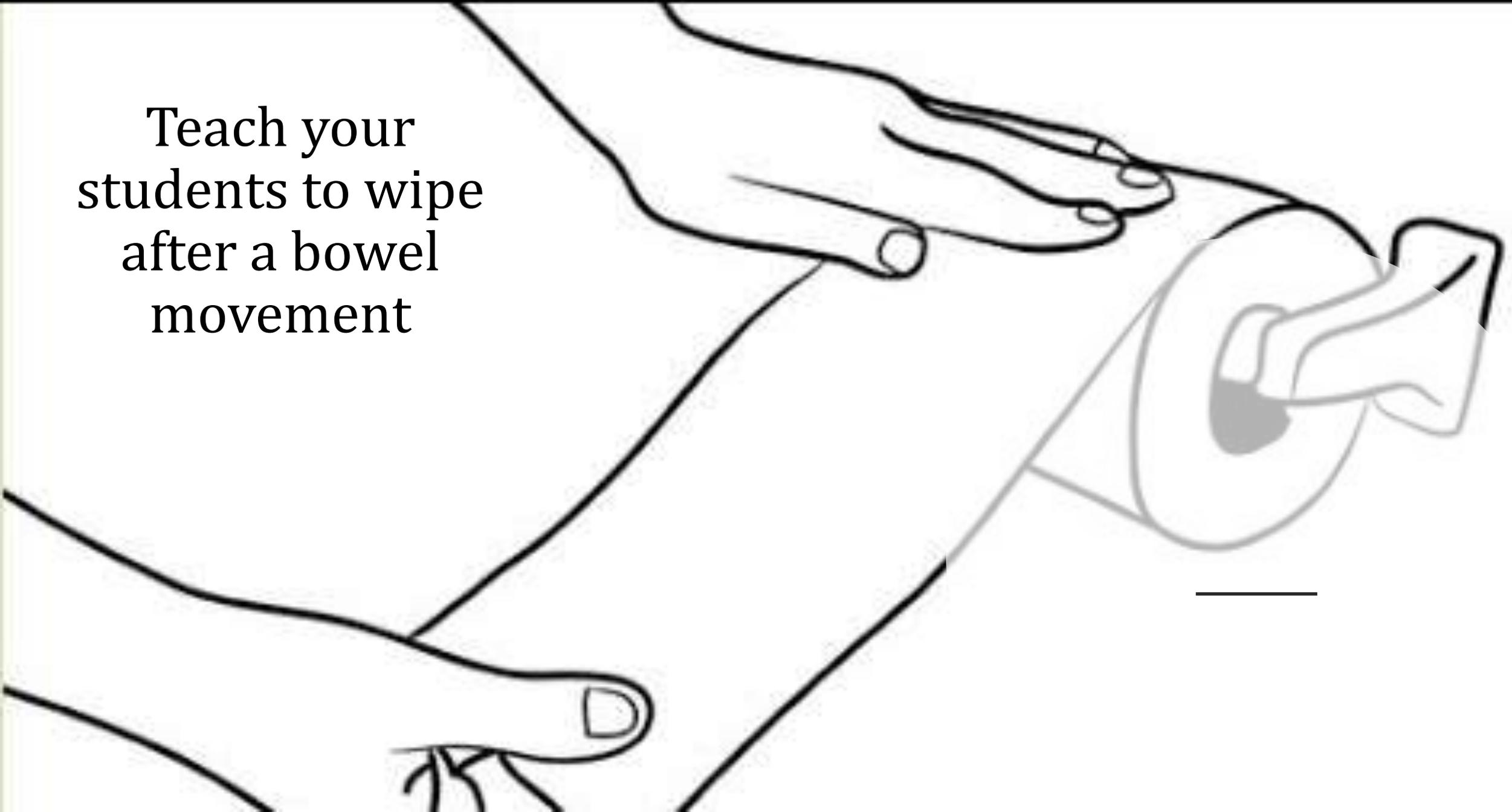
DON'T DREAM IT,
BE IT.



Moira Gibbons

DON'T DREAM IT,
BE IT.

Teach your
students to wipe
after a bowel
movement





**A failure is not always a mistake,
it may simply be the best one can
do under the circumstances.
The real mistake is to stop trying.**

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B.F. Skinner
1 9 0 4 - 1 9 9 0

Save the World
with
Behavior Analysis

