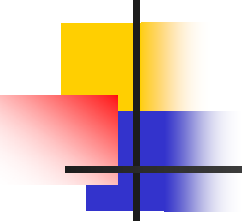


ABA and Older Learners with Autism: Applications to Promote Competence and Quality of Life



Peter F. Gerhardt, Ed.D.
Organization for Autism Research
www.researchautism.org

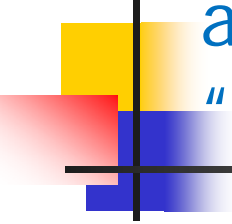


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- The parameters defining successful outcomes for adults are, well, vague at best.



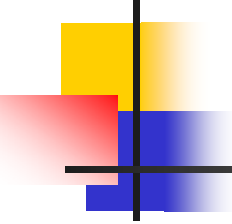
Providing evidence-based intervention to adults is a more complex process than you might think...

- “These children often show a surprising sensitivity to the personality of the teacher [] They can be taught but only by those who give them true understanding and affection, people who show kindness towards them and yes, humor []. The teacher’s underlying attitude influences, involuntarily and unconsciously, the mood and behavior of the child.”
 - *-Hans Asperger, 1944*
- *In other words, you need to become a conditioned reinforcer if you are to be an effective behavior change agent.*



Lastly, there continues to be limited interest in adults and a persistent belief that they have “maxed out” in terms of skill development

Nobody, it seems, goes to college to work with adults with autism. Kids with autism? Sure. Adults with autism? Not so much.

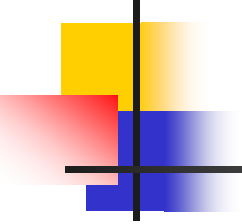


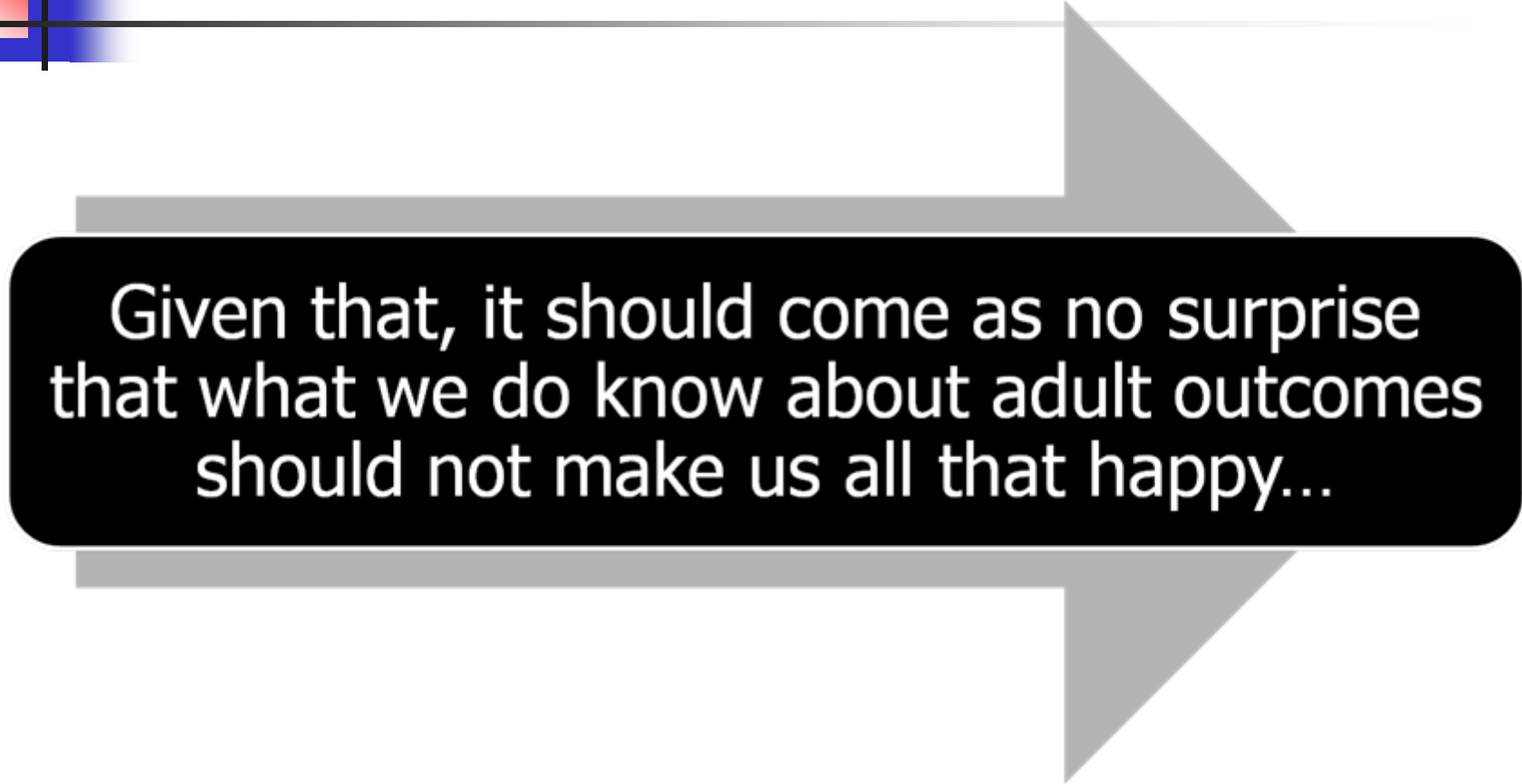
Which is further “complicated” by the fact that no one stays in the field.

Direct Service Turnover in Residential/In-Home and Vocational/Day Services, 1998-2003*

Setting Type	Number of Studies	Average Rate
Residential/In-home	11	53.6%
Vocational/Day	6	46.0%
Both	9	48.1%
Combined Average	26	50.0%

*Source: *The Supply of Direct Service Professionals Serving Individuals with Intellectual Disabilities and other Developmental Disabilities. Report to Congress (2004)*. Department of Health and Human Services; Washington DC. Available on line at http://www.ancor.org/issues/shortage/aspe_dsp_11-09-04.doc.





Given that, it should come as no surprise that what we do know about adult outcomes should not make us all that happy...



Adaptive Behavior

- “Adaptive Behavior is defined as those skills or abilities that enable the individual to meet standards of personal independence and that would be expected of his or her age and social group. Adaptive behavior also refers to the typical performance of individuals without disabilities in meeting environmental expectations. Adaptive behavior changes according to a person’s age, cultural expectations, and environmental demands.” (Heward, 2005).



Adaptive behavior and ASD

- 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.
- Despite the exclusionary criterion of “no clinically significant delay in [] the development of age appropriate self-help skills [and] adaptive behavior (other than social interaction)” in diagnosing Asperger Syndrome, research indicates that for this group of learners the gap between IQ and adaptive behavior can be marked. (Lee & Park, 2007; Myles, et al, 2007)

The many, many moods of adaptive behavior...

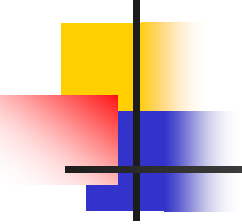


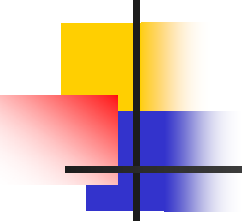
Holy adaptive behavior Batman!
Your underwear is outside your pants

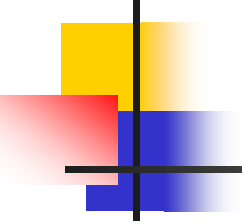


Adaptive behavior and adult outcomes

- In a group of 20 adolescents with Asperger syndrome, Green, et al (2000) found that despite a mean IQ of 92 only half were independent in most basic self care skills including brushing teeth, showering, etc. None were considered by their parents as capable of engaging in leisure activities outside of the home, traveling independently, or making competent decisions about self care.

- 
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- Howlin, et al (2004) surveyed 68 adults with autism with an IQ of above 50 and found a majority (58%) were rated as having poor or very poor outcomes. With regards to employment status they found
 - 8 were competitively employed
 - 1 was self employed earning less than a living wage
 - 14 worked in supported, sheltered or volunteer employment
 - 42 had “programs” or chores through their residential provider.

- 
-
- Cederlund, et al (2008) followed 70 males with Asperger Syndrome (AS) and 70 males with autism more than 5 years after their initial Dx. The results indicated that while 27% of the AS group presented with “good” outcomes, 26% had a very restricted life, with no occupation/activity, and no friends. Outcomes were considerably worse for those with an autism diagnosis.



So it seems we need to do
things differently and do
them better



Understanding ABA as applied to competent adulthood

ABA is a field of inquiry dedicated to to investigating and modifying behavior in a systematic way. ABA is:

- Data-based
- Analytical
- Able to be replicated
- Socially important
- Contextual
- Accountable (Sulzer-Azaroff & Mayer, 1991)



ABA and older learners...

- ❑ Applied Behavior Analysis is a vast scientific discipline based upon over 35 years of published research.
- ❑ Applied Behavior Analysts develop interventions that are based upon empirically validated research and best practices for *both* skill acquisition and behavior reduction.
- ❑ Behavior Analytic interventions:
 - ❑ Highlight relevant stimuli while simultaneously minimizing extraneous stimuli
 - ❑ **Recognize the power of positive reinforcement**



ABA and older learners...

- ❑ ABA utilizes systematic prompting and prompt fading
 - ❑ Promotes consistency across support staff
 - ❑ Provides for data based decision making
- ❑ **But please note, in supporting adolescents and adults there are times where previously accepted “prompt hierarchies” may have to be modified as a function of community standards**
- ❑ Behavior Analysis is, by definition, a person centered approach to supporting individuals with ASDs



ABA and older learners...

- ABA...

- ❑ through task analysis, breaks complex material into teachable units and identifies complementary repertoires (next)
- ❑ **represents a teaching method with tremendous versatility beyond discrete trial instruction**
 - ❑ **Fluency/Rate-base instruction → Instructional Intensity**
 - ❑ **Shaping**
 - ❑ **Chaining**
 - ❑ **Incidental strategies/NET**
 - ❑ **Environmental/curricular modifications**
 - ❑ **Peer instruction and support**
- ❑ provides *numerous* structured opportunities for learner to acquire and practice a new skill or response in isolation prior to expecting the learner to show discrimination



And some relevant
research...



Life skills...

- Smith & Belcher, (1985) implemented a training program to teach life skills to five adults with autism living in community group homes. Individuals were trained in 5 target behaviors: sink cleaning, cooking spaghetti, face washing, hair combing, and tooth brushing. Four levels of assistance--no help, verbal instruction, demonstration plus verbal instruction, and physical guidance plus verbal instruction--were provided as necessary. All 5 learners showed progress in targeted life skills with 4 achieving independence.



Personal Appearance

- McClannahan, et al (1990) developed and implemented a personal appearance index in order to promote personal care with older learners with autism. A multiple baseline design across individuals documented major changes in personal appearance and cleanliness when individuals moved from an institution to community-based group homes.



Toileting

- Okuda, (2001) examined the effectiveness of positive practice in training an adult male with autism who lived in an institution to defecate and urinate appropriately. Toileting in his living environment was task-analyzed, and a positive practice procedure was conducted in order to chain appropriate toileting behavior. The results demonstrated that appropriate toileting increased, and excretions in inappropriate locations decreased. A 1-year follow-up showed that the improvement had been maintained with little change.



General Life Skills

- In a recent meta-analysis, Bellini & Akullian (2007) documented the effectiveness of video modeling and video self-modeling in addressing social-communication skills, adaptive behavior, and behavioral functioning in children and adolescents with ASD. The authors suggest that this intervention meets the criteria for designation as an evidence-based intervention.



Riding mass transit

- Watanabe, Uematsu, & Kobayashi (1993), taught three adolescents with autism to ride public buses using pre-teaching in class, an immediate error correction procedure in the natural setting, and self monitoring.



Seeing assistance when lost

- Taylor & colleagues (2004) taught three teenagers with autism to respond to a vibrating pager to seek assistance in community settings when physically separated from their parents or teachers. Following instruction individuals, upon being paged, were able to successfully hand a communication card (containing a request to call someone for assistance) to a community member indicating that they were lost.



Production Skills

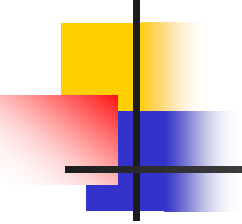
- Lattimore, Parsons, & Reid, (2006) compared job-site plus simulation training for teaching job skills to supported workers with autism to provision of training exclusively on the job. Job-site training occurred at the job during the regular work routine, and simulation training occurred in an adult education facility. Two pairs of workers received training on two job skills; one skill was trained at the job site and the other was trained using job-site plus simulation training. Results indicated that for 3 of the 4 comparisons, job-site plus simulation training resulted in a higher level of skill or more rapid skill acquisition than did job-site-only training. Results suggested that job-site training, the assumed best practice for teaching vocational skills, is likely to be more effective if supplemented with simulation training.



Key Priorities of Instruction in Transition Programming

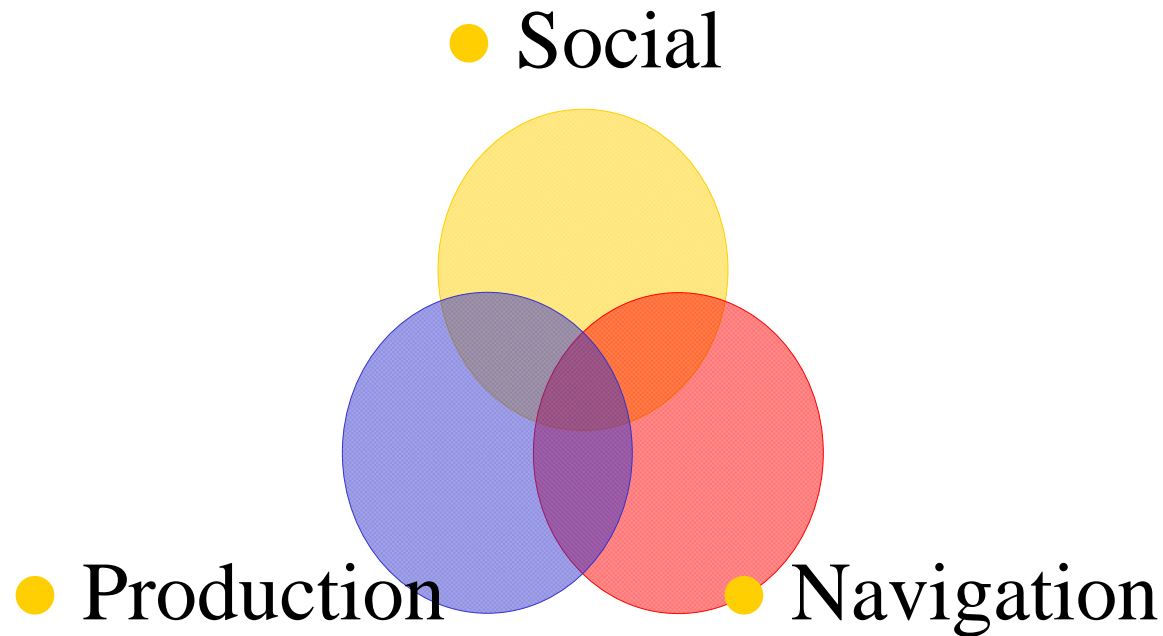
- Solicit student and family input as to where they want to be in 1 year, 5 years, 10 years, etc.
- Survey current and potential future environments.
- Assess skill needs across environments in terms of work, social and navigation skills.
- Prioritize skills that occur across multiple environments
- Attend to safety skills
- Attend to skills that reduce dependence
- Attend to skills you will need to provide the NT cohort

Adapted from: Wehman, P. (1992). Life Beyond the Classroom: Strategies for young people with disabilities. Baltimore: Paul H. Brookes.



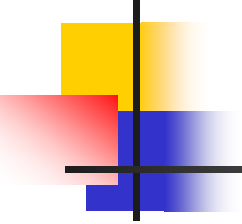
So the question then becomes,
“If we know a fair amount
about teaching a variety of
adaptive skills and transition
planning, why do our outcomes
continue to be so poor?”

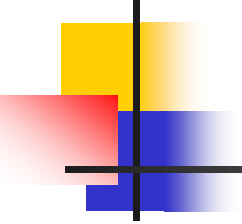
First, we tend to focus on the “production” component of adaptive behavior to the detriment of the social and navigation components



With the resulting task analysis looking something like this...

Production	Social	Navigation
		Locate elevator
Press correct button		
	Wait	
	When door opens, wait for others to leave	
		Enter elevator
		Turn around
Press correct button or ->	Ask for button to be pressed	
		Adopt appropriate distance from others
Monitor floor(s)		
		Exit elevator at correct floor
		Proceed to destination

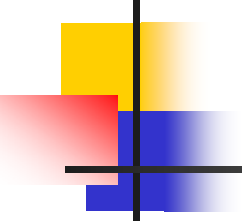
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- **Second**, our repertoire of evidence-based interventions are often used to teach inconsequential skills because they are either easy, safe, or both.

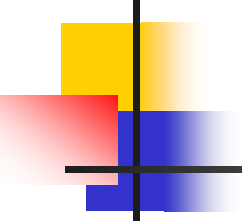
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- This means that we continue to focus on a subset of skills that we assume to be functional including (but not limited to):
 - Sorting, collating, packaging, assembly
 - Shoe tying
 - Money concepts v. Purchasing skills
 - School-based activities v. Community-based activities
 - Nonfunctional academics (few of us really need to differentiate between a horse and a zebra on a regular basis)



So it seems...

Despite how evidence-based your interventions are, teaching inconsequential skills well is really no better than teaching essential skills poorly.

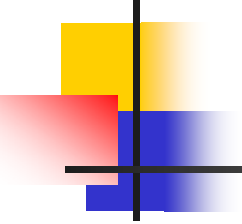
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- **Third**, as learners grow beyond the age of 10-years or so, the concept of “intensity of instruction” is slowly abandoned in favor of a more typical pace of instruction. For example:

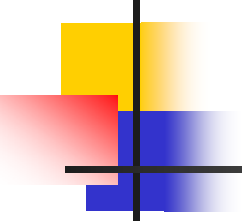
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- At the age of 5-years, learner “A” required 1,000 trials (50 sets of 20 trials) of color identification instruction to be able to consistently identify all 64 colors in the Crayola box across all teachers and all environments.



At age 15-years however...

- and with the goal of buying lunch at Burger King, he will probably be presented with (at most) 1 trial/week. At this pace of instructional intensity he will require over 20 years of instruction to equal the number of learning opportunities necessary to acquire a simple discrimination skill (i.e. color ID).

- 
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- **Fourth**, in community-based instruction of adaptive skills, there may be a tendency for professionals to focus on the wrong contingencies. That is, there may be greater professional reinforcement available for the absence of “problems” in the community than for any actual skill development by their students

- 
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- **Fifth**, we may need to think and read outside the literature base with which we are most comfortable and most familiar. For example:



ABA beyond JABA...

Hagner & Cooney (2005) interviewed the supervisors of 14 successfully employed individuals with autism to examine their supervisory practices and their perceptions of employees with autism. Supervisors evaluated their employees with autism highly, and qualitative analysis found that a set of specific supervisory accommodation strategies were commonly associated with successful supervision. These included:

- maintaining a consistent schedule & set of job responsibilities; (activity schedules/task analysis)
- using organizers to structure the job (visual supports)
- reducing idle or unstructured time (DRA)
- being direct when communicating with the employee, and (present a clear and accurate Sd)
- providing reminders and reassurances (prompting and reinforcement)

Sixth, we need to figure out creative ways to use our technology to get around the boulder...





The Use of Bluetooth® Technology to Promote
Independent Responding in the Community: The Reduction
of the Stigma of Prompting

PAAL

*Preparing Adolescents
for Adult Life*

Satriale, G., Chance, L., & Nepo, K. (2008)

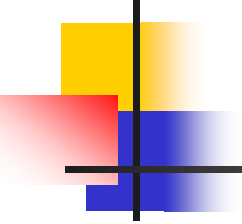


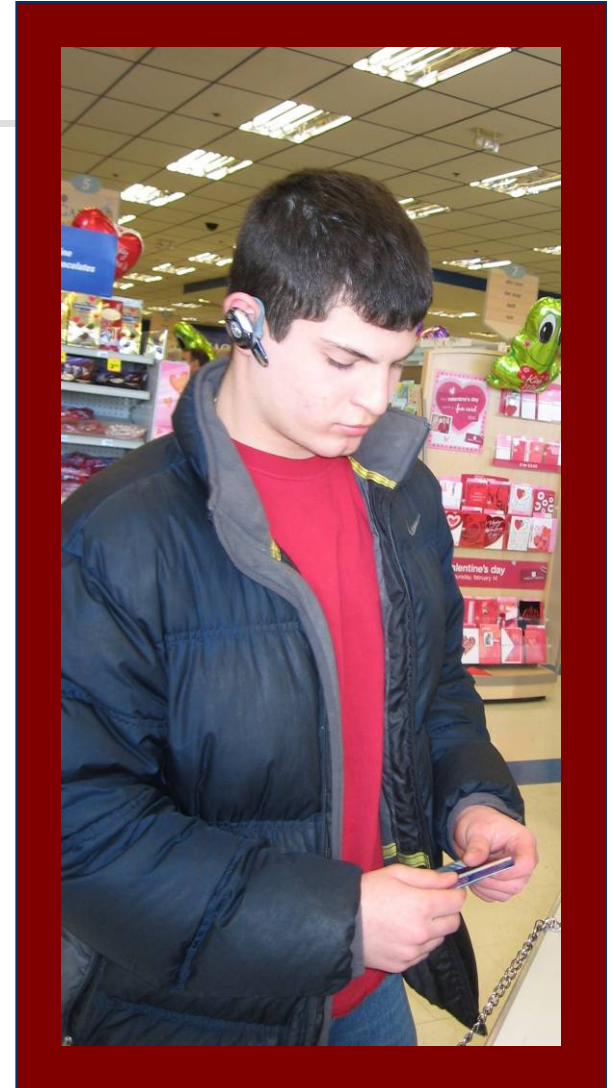
Purpose

- To examine the extent to which the Bluetooth technology can be used in lieu of gestural prompting during community based instruction.



- The use of Bluetooth technology allowed prompting to be delivered from increasingly greater distances.

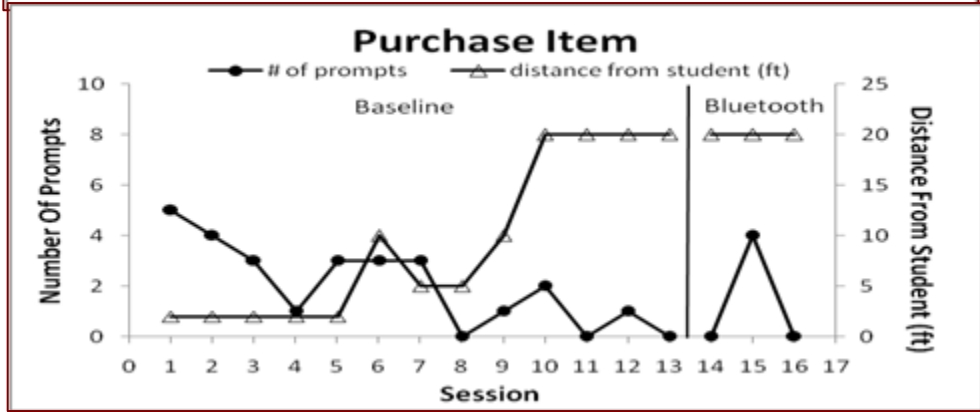
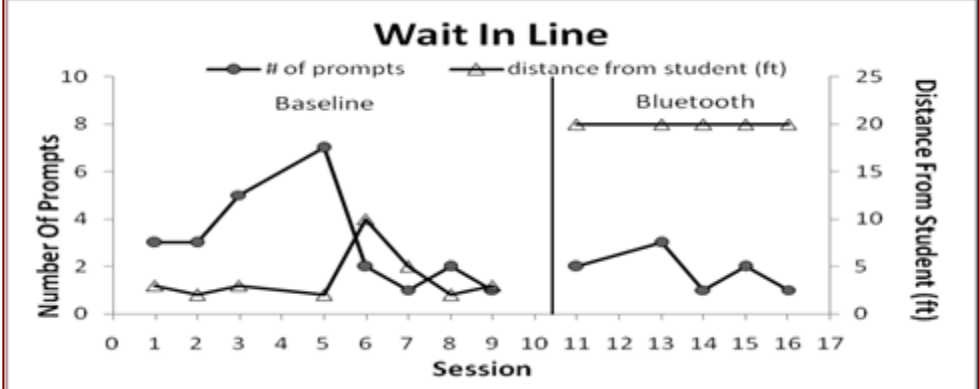
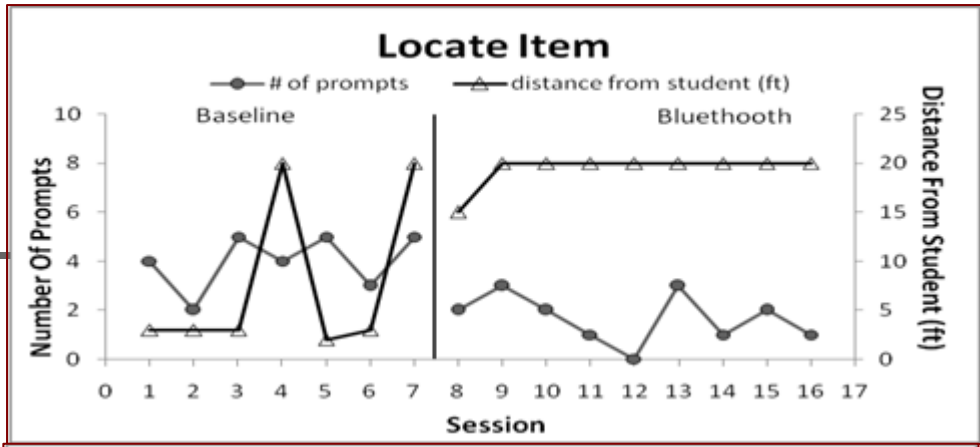
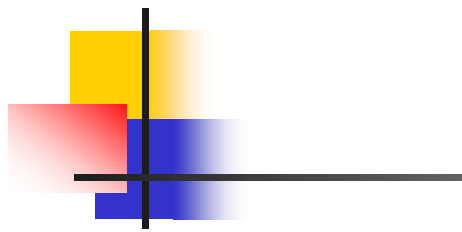
- 
- Reduced levels of physical and gestural prompting lead to greater independent functioning and reduction of stigma thereby promoting greater levels of social acceptance within the community.





A secondary benefit

- The participant frequently exhibited non-contextual vocalization across settings. The implementation of the Bluetooth disguised his vocalization as functional communication thereby reducing the stigma associated with this particular behavior.





And in terms of social validity

- Socially valid behavior interventions are those that
 - Are directed to problems of verifiable importance;
 - Are valued by designated target groups; and
 - Have sufficient impact to change the target behavior.

Winett, R.A., Moore, J.F., & Anderson, E.S., (1991). Extending the concept of social validity: Behavior analysis for disease prevention and health promotion. Journal of Applied Behavior Analysis, **24**, 215-230.



"I thought something wasn't quite right with him, but I didn't think it was as bad as that autism thing." - Rite Aid Cashier



What does ABA have
to offer Quality of Life
Considerations?



To start with...

"...happiness among people with profound multiple disabilities can be defined, reliably observed, and systematically increased" supporting the fact that **"the contributions of behavior analysis for enhancing the quality of life among people with profound and multiple disabilities may be increased significantly."**

C. Green & D. Reid, 1996



Quality of Life is Not a New Concept

Not life, but good life, is to be chiefly valued.

Socrates (469 BC - 399 BC)

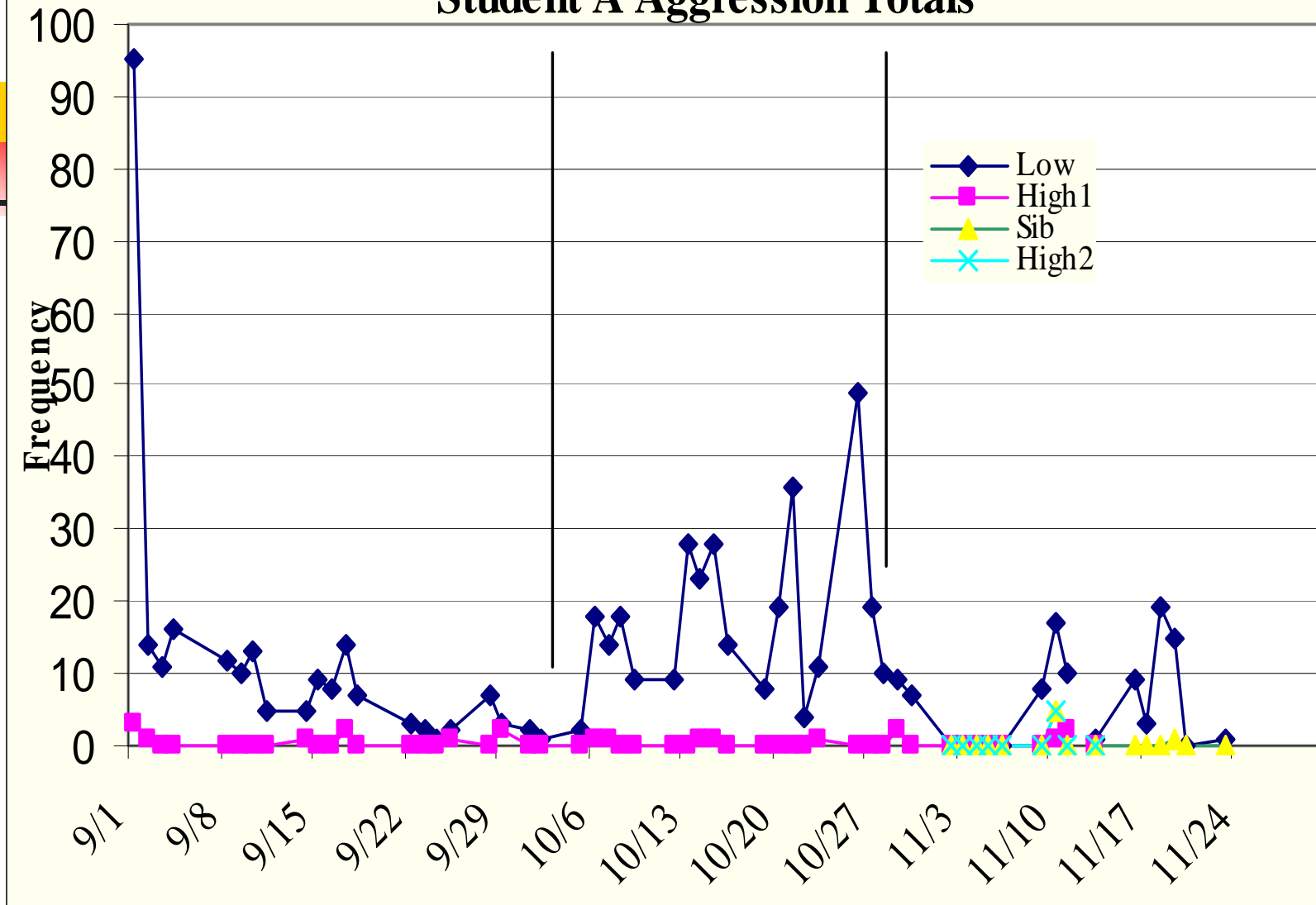


We can start here...

- *Quality of life 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.*

- R. Schalock, (2001)

Student A Aggression Totals



Gerhardt, P.F., Weiss, M.J., & Delmolino, L. (2003). Treatment of severe aggression in an adolescent with autism: Noncontingent reinforcement and functional communication training. The Behavior Analyst today, 4, 386-394. Available on-line at <http://www.behavior-analyst-today.com/VOL-4/BAT-4-4.pdf>



As of 2007...

- His was supported as an adult at less than 1/3 the cost of his educational program
- He was volunteering at the food bank
- He regularly went out to restaurants for a sit down lunches and dinners
- Regularly exercised in the community (walking) 2-3 times per week and at a local gym
- He worked with a wide number of staff with whom he felt comfortable
- In 2006 he was selected as Elk of the Year. He is well liked by all the Elks members!



*“You must be the change
you wish to see in the
world”*

Mahatma Gandhi



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