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Cover illustration by Chris Barajas

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COVER FEATURE

We are pleased to feature one of our local artists, **Chris Barajas**. Read more about Chris on page 11.

Mission Statement

Autism News of Orange County ϕ the Rest of the World is a collaborative publication for parents and professionals dedicated to sharing research-based strategies, innovative educational approaches, best practices and experiences in the area of autism.

Submission Policy

The Autism News of Orange County *RW* is available free of charge to parents and professionals of children with autism. The opinions expressed in the newsletter do not necessarily represent the official view of the agencies involved.

Contributions from teachers, therapists, researchers and relatives/children of/with autism are welcome. The editors select articles and make necessary changes.

Please submit articles in Microsoft Word using font size 12, double spaced, and no more than four pages in length (2600 words). Photos are encouraged and when submitted with articles the permission to include is assumed.

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Beyond Buzzwords: Evidence-Based Practices

By Vera Bernard-Opitz

The term 'evidence-based practices' has become a buzzword in conferences, articles and educational settings for children with autism, indicating that treatment should be based on methods with confirmed scientific evidence combined with clinical expertise. It clearly makes sense to develop guidelines to filter out questionable treatments, which give false hope to parents and professionals and which waste energy, resources and the child's time. Having a catalog of validated interventions for children with autism would definitely be helpful to consumers, as well as service providers.

So far – so good, but what exactly is 'evidence' for treatment success; what can be considered a positive treatment outcome and which research evidence is sufficient? Some may argue that behavioral interventions have demonstrated their effec-

tiveness, in sound single case and group studies, over the last forty years and that placement in less restrictive settings can be seen as a longterm success. In this context the **Intensive Early Intervention** study by

Evidence-Based Intervention is related to

- Research support
- Theoretical underpinning
- Causal relation to treatment success

Lovaas at UCLA is usually cited, indicating that 47% of the participating two to four year old children were integrated into regular classes after two years of forty hour per week behavioral intervention (Lovaas, 1987). Over the past years, several replications of this project have been reported with most unfortunately not achieving the extent of the original research findings (*e.g.*, Eikeseth, Smith Jahr, & Eldevik, 2002; Birnbrauer, & Leach, 1993). These and other studies suggest that the impact of intensive intervention can vary considerably, depending on the scope of the program, the fidelity of the implemented treatment, staff and parent involvement and the intensity of the program.



Other colleagues may point to widely accepted educational interventions, which are considered 'Best Practice' methods, such as the TEACCH program (Mesibov et al, 1994). While some argue this program is less backed by research, good empirical

> support for its foundations has been demonstrated (Mesibov & Shea, in preparation). The structured teaching method, characteristic for TEACCH, is clearly matched to the needs of the individuals with autism for clear visual support, functional tasks and predictable work environments. Furthermore it is obvious, that this method has been *the* chosen treat-

ment in many autism centers around the world. There is no question that interventions such as this, based on matching treatments to core deficits of children with ASD, replications of positive outcomes over varying autism centers as well as providing wide appreciation for an approach, qualify as a 'Best Practice' methods.

There are other 'camps', which have specific intervention targets in mind, such as 'Augmentative Communication', 'Verbal Behavior', 'SCERTS', 'Integrated Play', 'Social Perspective Taking' or even 'Parent Training' to name just a few. They all touch on components of treatment, which are important for many individuals with ASD. With the wide selection of treatment options, parents are in a

Quality of Interventions							
UNACCEPTABLE	ACCEPTABLE	IDEAL					
Anecdotal evidence	Preliminary evidence	Replicated research evidence					

quandary when facing the difficult task of selecting the *best* treatment for their child, while researchers, clinicians and educators struggle with the decision which method has *sufficient* evidence. Should my non-verbal child be in a PECS program (Picture Exchange Communicative System) or should we aim for Verbal Behavior Intervention? In addition to school services should I take a parent training course, enroll my child in Integrated Play Groups or invest in additional home interventions through trained professionals? Questions such as these require extensive clinical expertise, good understanding of the child with ASD, the family and cultural context as well as the treatment paradigm in question.

It should meanwhile be clear that anecdotal accounts of improvement in treated areas alone are no longer sufficient. Positive expectancy, novelty or uncontrolled external factors all threaten the validity of individual case reports. Social validity data also seem insufficient by themselves, such as parents raving about positive changes, since they might be biased, having spent effort, money and hope on a treatment method. So again different arguments may need to be combined: if a treatment has a clear relation to established theories (such as the Theory of Mind), demonstrates effectiveness in treating specific individual problems and is acknowledged as having caused the changes, then it can be considered 'preliminary evidence' that this method can be helpful to a comparable individual.

The above does not imply that we should stand still and be content with basing our decisions for treatment on a collection of eclectic arguments. A continuum of standards may be helpful to discriminate treatments, which are unacceptable to ideal interventions based on sufficient empirical evidence and application.

While it may sound easy to parents/consumers, to find which treatment works the best and fastest for

their individual child, we stand before a tremendous task, which may need to be tackled by a representative panel of experts from different professions and different treatment directions.

Among others, the following questions need to be clarified:

- What group of individuals with ASD are we focusing on? (individuals with autism/Asperger Syndrome? What is their age range, IQ range, skill profile, interest/motivation etc?)
- What goals are targeted in specific interventions? (Long/short term goals; skill/educational/behavioral goals; individual/family/community goals etc)
- What are selection criteria and cut-offs for interventions? (unacceptable/acceptable/ideal criteria)
- What are necessary components of treatment packages, such as Pivotal Response Training, TEACCH or social skill training?
- What are crucial treatment factors, which affect change in programs as different as ABA, Verbal Behavior, Pivotal Response Training, Integrated Playgroups, TEACCH or the SCERTS model? (Prizant, Wetherby, Rubin, Laurent & Rydell 1999)
- What external factors contribute to treatment success? (parent involvement/integration/support systems, etc)
- What are predictors for treatment success, such as characteristics of children, who require certain interventions? (Schreibman & Stahmer, See this issue; Sherer & Schreibman, 2005)
- Does a certain sequence of specific treatments (*e.g.* play before ABA) enhance developments? (Bernard-Opitz et al, 2004).

Treatments based on Best Practice methods

- Theoretical rational
- Matched treatment
- Preliminary evidence
- Social validity data

In addition to the above, we also need more knowledge about the effectiveness of treatments at both ends of the spectrum. There is an urgent

need to understand why some children with ASD do not benefit from intensive interventions. We also should make sure that some of the outstanding treatment successes pointed out by their proponents are not related to maturational changes in children less severely disabled or external factors not associated with the treatment. We need more treatment studies comparing control subjects on waiting

More research is needed to understand

- Common factors in different treatment methods
- Crucial components of treatment packages
- Predictors for treatment success
- Maturational factors
- External influences

lists to specific interventions, as well as different treatment components to each other (Howard et al, 2005). While these studies pose enormous methodological challenges, guidelines for dealing with the problems have been outlined (Schreiber, 2006; Lord, C. et al, 2005; Kazdin & Nock, 2003).

Most critical clinicians and educators have long moved beyond a 'one size fits all' attitude when it comes to deciding on treatments for children with ASD. They are aware that we are dealing with a wide spectrum of problems, which requires a spectrum of interventions. Not every child with autism fits the characteristics of the participants in the above-cited Early Intervention studies by the ABA

pioneers – so not everybody needs the quoted forty hours of weekly, one-to-one discrete trial intervention, just as well as not everybody requires an augmentative communication device, PECS training, a TEACCH environment or Social Perspective Intervention.

We need to remember that even if a treatment has demonstrated its effectiveness for a certain group, this does not imply that every individual benefits. Instead of the top down question, 'Which child can benefit from Precision Training, Peer Mediated Learning or Activity-Based Instruction?' Bottom-up questions should be asked, which aim at the needs of the individual with autism. Which treatment matches the individual's needs, for what teaching target, at what time in his development in what context? In discussions for standards regarding evidence-based interventions guidelines are crucial for decision making to assure the most effective treatment of individuals with ASD.

Through the forty-year history of autism treatment we have learned a lot about highly specific interventions that tend to be successful with certain children. Especially in the behavioral field single subject designs have clearly demonstrated the effect of component techniques, be it interrupting behavior chains, time delay or sensory reinforce-

ment. We now are entering the exciting phase of matching treatments to learning features, interests and therapy goals of individuals with autism (Bernard-Opitz. 2005 & in print). **Comparable to designer drugs, designer treatments should be an aim in services for children with autism**: just as an Aspirin can not cure every single headache, a multitude of proven interventions is required, which can be matched to the individual needs of the child with ASD.

Preliminary guidelines for effective treatment programs, such as the one by the National Institute of Mental Health can give parents and professionals some directions with making the right choices (NIMH, 2004).

The wide spectrum of problems of individuals with ASD requires a wide spectrum of interventions. "An effective treatment program will build on the child's interests, offer a predictable schedule, teach tasks as a series of simple steps, actively engage the child's attention in highly

structured activities, and provide regular reinforcement of behavior. Parental involvement has emerged as a major factor in treatment success."

While guidelines and standards for evidence-based interventions are discussed and developed in various countries (Wilczynski, 2006, US National Standard Project; Jordan, UK, 2005; Perry & Condillac, 2003, Canada; Hoagwood et al, 2001, US), we will continue our commitment to evidence-based/best practices by disseminating articles, which are either based on scientific evidence, have a scientific foundation or

have the support of parents and experienced professionals. And hopefully this will contribute to bringing best practices to the children we care about.

As such we are delighted to present the following articles in our current issue of the Autism News:

- Laura Schreibman and Aubyn Stahmer, from the University of California, San Diego, share their innovative research about predictors for the success of Pivotal Response Training.
- Marisa Macy, Helen Sharp and Ruby Chan, from the University of Oregon, describe and exemplify Activity-Based Intervention as an approach rooted in established developmental theories, which can easily be implemented in the school and home environment.
- Galene Fraley (TEACCH Center, Asheville, North Carolina) and Andrea Walker (S.U.C.S.E.S.S. Project, Orange County, CA) describe the annual TEACCH workshop held locally, where teachers learn to link challenges in teaching individuals with ASD to solutions through structured teaching methods.
- Lauren Franke (Scottish Rite Clinic, Long Beach) and Christine Durbin (CA Pacific Medical Center) give concrete ideas for the development and expansion of narrative skills, a crucial basis for social and academic success.
- Tamara Fortney (Interagency Autism Center, Orange County, CA) shares her exciting experience with teaching a 26 months old boy imitative play through Video Modeling.
- Last, but not least, we appreciate that **Ellen Notbohm** contributes her highly acclaimed thoughts on 'Ten Things Every Child with Autism Wishes You Knew.'

We are grateful to our authors and everybody involved in making this new issue of the Autism News possible. We also want to express our gratitude to **Tresa Oliveri**, who had to resign from her volunteer position as the Associate Editor. Thanks, Tresa, for all your late hours in helping make the issues 'perfect'! We welcome **Sachiko Galassetti** as the new Associate Editor, who will leave her traces behind as an artist, scientist and high-school teacher. A special welcome also goes to **Jennifer McIlwee Myers**, who has recently joined our local Advisory Board. With a background in computer science and a family history of ASD, she represents the bright and kind individuals with Asperger Syndrome.

We very much hope that you will enjoy the present issue of the Autism News and invite you to contribute articles for the coming newsletter, which will focus on **Family Issues in ASD**.

> **Vera Bernard-Opitz, Ph.D.** Clin. Psych., Editor Website: http://verabernard.org Email: verabernard@cox.net ♥

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Individualized Treatment for Children with Autism

By Laura Schreibman and Aubyn Stahmer

The field of autism has been subject to controversies, debates, and arguments almost since the day Leo Kanner identified the disorder in 1943. Controversies continue because, to date, we really have relatively few answers to the many questions autism poses. Controversies abound relating to etiology, core deficits, educational policies, and the like. However, in recent years one of the most contentious aspects of autism has enjoyed some consensus in the area of treatment. Thus, while there is still no shortage of scientifically unproven, blatantly bogus, or other ineffective treatment options to tempt parents and others, those with a critical eye now agree that, so far, the only form of treatment that has been empirically demonstrated to be effective in treating individuals with autistic disorder are treatments based upon a behavioral model (e.g., National Research Council, 2001; Schreibman, 2005). These are treatments that apply the principles of learning and which have been experimentally validated through applied behavior analysis. They are all founded in behavioral principles but differ in terms of the strictness of structure, naturalistic procedures, and other variables. Although there are many brand names for treatments based on these principles, the major behavioral treatments are Discrete Trial Training (DTT, Lovaas, 1987), Pivotal Response Training (PRT, Schreibman & Koegel, 2005), Incidental Teaching, and the augmentative Picture Exchange Communication System (PECS, Bondy & Frost, 1994).

"Treatments based upon behavioral principles have proven to be effective."

While these treatments are all somewhat effective with the majority of the children, one problem that has bedeviled the field is that none of these is maximally effective for all children with autism. The notorious variability in treatment outcome with this population suggests that other variables are involved in affecting treatment response. **This means that** the usual arguments about which behavioral treatment is *best* are essentially meaningless in that there is no one behavioral treatment that fits all of the children. Thus, to be maximally beneficial with children with autism, we need to understand the variables affecting treatment effectiveness so we can tailor treatment to the needs of the individual child.

What kinds of variables must we consider? We believe that **the following variables are important for treatment**:

- (1) Child variables
- (2) Parent variables
- (3) Cultural variables, and
- (4) Treatment/behavior interactions.

Ideally we would be able to understand how these variables impact outcome and approach each child's treatment from a very informed position. Ideally we could take a child and family, conduct assessments of these variables, and come up with a formula for designing the best behavioral treatment program.

"No one behavioral treatment fits all children."

We have just begun to conduct research in this area by starting with identifying child characteristics that predict treatment outcome.

Pilot Study

Sherer and Schreibman (2005) conducted the first study to identify a behavioral profile of children with autism that predicted the effectiveness of one behavioral intervention, Pivotal Response Training (PRT, Koegel et al., 1989). PRT is a method that has bridged the gap between highly structured discrete trial training (DTT) (which typically uses analog or drill-oriented teaching) and very naturalistic methods such as Incidental Teaching (which is highly dependent upon the environment and the child's actions for each teaching opportunity). PRT grew out of DTT and can be used in a structured or naturalistic format. PRT is specifically designed to

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increase a child's motivation to participate in learning new skills, and training involves specific strategies such as: 1) clear instructions and questions presented by the therapist; 2) child choice of stimuli (based on choices offered by the therapist); 3) interspersal of maintenance tasks (previously mastered tasks); 4) direct reinforcement (the chosen stimuli is the reinforcer); 5) reinforcement of reasonable, purposeful attempts at correct responding; 6) turn taking to allow modeling and appropriate pace of interaction.

In the behavioral profile study we looked at pretreatment behavioral observations of children who subsequently either made substantial progress with PRT or responded minimally to the treatment. A behavioral profile was identified that differentiated the "Responders" from the "Nonresponders." The responders engaged in more interaction with toys, were not very socially avoidant, would approach adults, had moderate to low rates of nonverbal selfstimulation, and had higher rates of verbal self-stimulation. In contrast, nonresponders had low rates of toy interaction, were very socially avoidant, rarely approached adults, had high rates of nonverbal selfstimulation, and low rates of verbal self-stimulation (See Figure 1).

Experiment 1

In the prospective phase of this study, six new children were enrolled (age range 3-5 yrs; IQ range: <50 to 78, language age range: 8 - 44 mos, and

symptom severity Childhood Autism Rating Scale Scores range: 35-43), three who fit the responder profile and three who fit the nonresponder profile (See Table 1). Two of the responders used single words very infrequently and one used simple phrases for requesting. All of the responders exhibited a great deal of verbal self-stimulation, difficulty with eye contact and poor transitioning skills. Similarly, two of the nonresponders had minimal language and one had phrase

speech. The nonresponders tended to engage in a great deal of nonverbal self-stimulatory behavior and to actively avoid interaction with adults. These children underwent intensive (90-minute 1:1 sessions, 4-5 times per week for six months) PRT treatment. As we predicted, those children who matched the PRT responder profile improved substantially in the areas of communication, social behavior, and play. Examples of improvement were increases in vocabulary and complexity of language and improvement in the variety and complexity of play activities. Also as we predicted, those children who matched the PRT nonresponder profile failed to show improvement. (In fact, for these children treatment was ended after five weeks due to ethical considerations relating to continuing an ineffective treatment.) The results of this study on communication behaviors are presented in Figure 2.

Experiment 2

These data led us to a new study focusing on the next logical step in treatment development. *Given that PRT is not the best treatment option for children with autism, who present with the nonresponder profile, what treatment would likely be an effective treatment option?* In other words, how could we make a treatment nonresponder a treatment responder? Importantly we also hoped to determine whether our profile was specific to PRT (i.e., not just a profile predictive of outcome to any treatment).

Participant	1.00		DAS (IQ)		(age	Bayley equival	leat)	(0	Leiter onverbal 1	Q)	(age	Vineland equivale	n0	(54	CARS everity s	i core)
type	(years-months)	pre	post	f/ap	pre	post	f/up	pre	post	f/up	pre	post	f/up	pre	post	f/up
RI	3-0	UT	UT	65	0-11	2.0	2-8	UT	UT	UT	1-0	2-4	3-3	37	-40	32
R2	3-4	UT	UT	_	0-9	1-11	_	124	120	_	0-11	1-8	_	40	-40	_
R3	3-5	78	88	83	NA			93	98	_	2-7	3-6	4-2	32.5	29	30
NR1	3-1	UT	UT	_	1-3	1-3	_	118	120	_	1-11	1-10	_	35	37	_
NR2	3-8	UT	UT	UT	0-9	0-8	0-6	UT	UT	UT	0-10	0-10	0-9	43	43	48
NR3	5-10	70	68	_	NA			110	110	—	3-11	3-11	_	37	38	40
											Mac	Arthur C	ы			
			ррут-і	R	Е	OWPV	г	C	mprehens	800	G	estures			Producti	on
RI		υT	>1-9	2-4	UT	2-8	3-0	0-8	>1-4	>1-4	>1-4	>1-4	_	1-2	2-6	2-1
R2		UT	2-0	_	UT	2-3	_	0-11	>1-4	_	0-9	>1-4	3.0	1-2	1-8	_
R3		2-2	2-6	2-10	2 - 10	3-8	3-4	NA.			NA			2-4	>3-0	>3-0
NR1		UT	UT	_	UT	UT	_	0-10	0-10	_	0-11	1-0	_	1-4	1-4	_
NR2		UT	UT	UT	UT	UT	UT	0-8	0-8	0-9	0-10	0-9	0-9	1-0	1-0	1-0
NR3		5-0	5-3	_	3-9	3-9	_	N.A.			NA			NA		

(Sherer, M. R., & Schreibman, L. (2005). Individual behavioral profiles and predictors of treatment effectiveness for children with autism. *Journal of Consulting and Clinical Psychology, 73*, 525-538, American Psychological Association, reprinted with permission.)

As we began to enroll children we realized that the profile may need to be individualized even further, as a majority of children we screened did not precisely fit the profile for all five of the behaviors. Therefore, we wished to see if it was necessary, or even desirable, to base treatment decisions on the aggregate of *all five* behaviors in the original profile. To that end, we prospectively enrolled six children who were identified as nonresponders on four out of five of the original profile behaviors. That is, three children met the nonresponder profile on all categories except toy contact (i.e., these children had 'high toy contact'), and three children met all categories except avoidance (*i.e.*, these children had 'low avoidance'). We provided these children first with PRT treatment to determine the predictability of the modified profile for response to PRT, and subsequently with Discrete Trial Training (DTT) treatment to determine if the profile predicted response to DTT.

"A complete profile match is *not* necessary for the profile to be predictive of outcome."

Several interesting results came out of this second study (Schreibman, Stahmer, Dufek, & Jennings, 2003).

(1) First, a complete profile match is *not* necessary for the profile to be predictive of outcome. Children in this second study who met a partial profile responded at levels that were between that of full responders and full nonresponders. Additionally, the PRT profile did *not* predict responding to the more structured behavioral program, DTT, indicating specificity to PRT.

"Interest in objects may be a key characteristic for responders to PRT."

- (2) Second, children with high interest in toys performed better during PRT than children with less toy interest. The profile is robust in that these children did not perform as well as children who were 'responders' in all areas. These children may take longer to respond to PRT.
- (3) Third, lack of avoidance did not appear to help children respond to PRT. This group performed essentially identically to the nonresponders in the original study.
- (4) Fourth, one child did respond very well to PRT even though he met the nonresponder criteria in the initial assessment, therefore the profile cannot be a replacement for clinical

Responders Profile	Nonresponders P	ofile	Responders		
		Categor	y Mean Percentage of Interval Occurrence	Standard Deviation	Cutoff Ranges
		Toy Pla	y 70.8	9.56	61-80
A second s		Avoidar	t 10.0	2.88	7-13
		Арргоа	h 23.3	8.49	15-32
		Nonverbal	Stim. 23.3	10.74	13-34
		Verbal St	im. 25.0	8.16	17-33
			Nonresponders		
	A TO A D A FEITH AND AND A FEITH AND AND A FEITH AND				
		Categor	y Mean Percentage of	Standard Deviation	Cutoff
		Categor	y Mean Percentage of Interval Occurrence	Standard Deviation	Cutoff Ranges
0 20 40 60 80 100	20 40 60	Categor Toy Pla	y Mean Percentage of Interval Occurrence y 27	Standard Deviation 10.29	Cutoff Ranges 17-37
0 20 40 60 80 100	0 20 40 60	Categor Toy Pla Avoidar	y Mean Percentage of Interval Occurrence y 27 t 36	Standard Deviation 10.29 10.67	Cutoff Ranges 17-37 25-47
0 20 40 60 80 100 Mean % Interval Occurrence	0 20 40 60 Mean % Interval O	Categor Toy Pla 80 100 Avoidar Currence Approac	y Mean Percentage of Interval Occurrence y 27 t 36 h 17	Standard Deviation 10.29 10.67 9.27	Cutoff Ranges 17-37 25-47 8-26
0 20 40 60 80 100 Mean % Interval Occurrence	0 20 40 60 Mean % Interval O	Toy Pla 30 100 Avoidar currence Approac onverbal Nonverbal	y Mean Percentage of Interval Occurrence y 27 t 36 h 17 itim. 32	Standard Deviation 10.29 10.67 9.27 12.88	Cutoff Ranges 17-37 25-47 8-26 19-49

Figure 1. Behavioral profiles of predicted responders and nonresponders to Pivotal Response Training. Numbers represent percentage of 30-sec. intervals in which behavior occurred. Stim. = self-stimulation. (Sherer, M. R., & Schreibman, L. (2005). Individual behavioral profiles and predictors of treatment effectiveness for children with autism. *Journal of Consulting and Clinical Psychology, 73*, 525-538, American Psychological Association, reprinted with permission.)

Research



Figure 2. The percentage of 30-s intervals that contained appropriate communication for responders (Rs; Figure A) and nonresponders (NRs; Figure B) during baseline, treatment, and generalization sessions. These data are a summation of data collected across four individual communication behaviors exhibited by each participant, therefore, they frequently total greater than 100%. Shading indicates 5th week of treatment and mean appropriate communication. BL = baseline; GS = generalization settings; GT = generalization to novel therapist. Gray shading marks end of 5 weeks of treatment for each group. The break at session 160 for responders represents the follow-up period. Generalization probes were not conducted during early treatment phases. (Sherer, M. R., & Schreibman, L. (2005). Individual behavioral profiles and predictors of treatment effectiveness for children with autism. *Journal of Consulting and Clinical Psychology, 73*, 525-538, American Psychological Association, reprinted with permission.)

judgment but rather should be used a tool to guide treatment options.

(5) Finally, the use of DTT may facilitate later response to PRT for some children. Preliminary data indicate that for some children, exposure to DTT may improve later response to PRT; the ultimate goal of full understanding of variables that can be incorporated in treatment decisions for these children.

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This research furthers the understanding of the treatment of autism by refining a detailed profile to determine *a priori* whether a child will respond to PRT, and by delineating alternative treatments for a subset of children who do not respond to naturalistic behavioral methods. Continued refinement is needed, as well as the development of methods which can be used in community settings by teachers and other program providers.

We feel this line of research is fundamentally important for several reasons. Obviously such tailoring of treatments to individual children holds promise for increasing the overall rate of substantial treatment effectiveness for these children. Also, given the acknowledged importance of early intervention, it is important that we provide the best treatment at the outset and not miss this important developmental window. Such research is also important in that it provides first steps towards the cumulative knowledge that will allow us to understand other important variables that will lead us closer and closer to

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Artist: Chris Barajas By Sally Flora



Chris is a nine year old, who currently attends California Elementary School in Costa Mesa. He first began to show us his flair and interest in creative drawing on a small white board, during structured playtime. We all encouraged him to expand his skill, by offering a larger drawing area, such as the main classroom board. In addition, he utilized computer art programs, that he has learned to master and greatly enjoys. We can always tell when Chris is having a good time drawing because this usually quiet boy becomes vocally animated as his pictures. If Chris draws *Homer Simpson*, he will speak in the style of that famous character to match.

Among the favorite items that Chris loves most to draw are the action heroes from *Spiderman* and *The Incredibles*. When it comes to drawing sports, we can always count on Chris to use his talents to show his interpretation of the Angels' baseball team. He loves to repeat "Angels' baseball!"

The drawing on this cover is a favorite activity for Chris while at school – "to ride the bike fast!"

Sally Flora

Teacher – California Elementary School Orange County Department of Education, Special Schools Program ♥

An Activity-Based Intervention Approach for Young Children with Autism

By Marisa G. Macy, Helen L. Sharp and Ruby J. Chan

An Overview of ABI

Development of an activity-based approach to early intervention was first initiated in the early 1970's at Peabody College, by Dr. Diane Bricker and her colleagues. The approach was inspired by observations that a didactic approach facilitated skill acquisition, but did not lead to maintaining and generalizing desired outcomes. From this initial work, an Activity-Based Intervention (ABI) approach was born and has over the years evolved into a set of carefully detailed procedures, which is used today with young children with and without disabilities. The hallmark of ABI is the use of daily activities and transactions to facilitate children's developmental and/or educational goals. ABI is based on the theoretical position that children and their social environment have a bidirectional relationship where both are significantly influenced by the other (Sameroff & Chandler, 1975). In addition, the ABI approach has incorporated ideas from the historical work of Dewey, Piaget, and Vygotsky, as well as ideas from more recent writings focused on developmental stages, social learning, and situated cognitive theory.

ABI is composed of four major elements:

- (1) Functional and generative goals
- (2) Child-directed, routine, and planned activities
- (3) Timely and integral feedback or consequences, and
- (4) Multiple and varied learning opportunities (Pretti-Frontczak, & Bricker, 2004).

Practitioners may use ABI for goal development, creating individual and group embedding schedules to identify logistics related to individualizing instruction/therapy writing activity plans, and developing intervention guides for children. ABI can be used in a variety of settings (*e.g.*, home, day care, preschools) with a variety of children (*e.g.*, those at risk and with specific disabilities, such as autism). ABI can be used to address content in all major domains of development.

The following describes how ABI has been used with a child with Autism Spectrum Disorders who is receiving early childhood special education services in a classroom setting. Examples are offered by describing interventions designed to address a specific goal.

Description of ABI in a Classroom Serving a Child with Autism

Kevin is a three year old boy, who has been diagnosed with Autism Spectrum Disorder (ASD). His Individualized Education Program (IEP) consists of goals that include five developmental areas (*i.e.*, adaptive, communication, social, fine motor and gross motor). The following functional goal was selected to illustrate how embedded learning opportunities can be created during classroom routines:

Kevin will use utensils to transfer food and liquid from one container to another.

Three snapshots of Kevin's day are presented to demonstrate how Kevin's teacher, Ms. Martinez, incorporates the four elements of ABI into daily classroom activities.

<u>Snapshot #1:</u> Outside Free Play focused on a child directed activity. When the children go outside, Kevin goes to the sandbox and begins to scoop sand with his hands into the back of a toy dump truck. Ms. Martinez picks up a large spoon and begins to spoon, sand into a bucket and then scoops sand from the bucket to the dump truck. Kevin picks up a spoon and Ms. Martinez supports him by providing handover-hand assistance and modeling. Kevin transfers the material from one container to the other. This is an example of a child directed activity. That is, Kevin chose to play in the sandbox and his teacher followed

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his lead and provided an embedded learning opportunity to practice his target goal by modeling for Kevin how to use the spoon to scoop the sand from the bucket to the dump truck.

<u>Snapshot #2:</u> Snack focused on a routine activity. Ms. Martinez sets out applesauce for snack time. Rather than putting applesauce into bowls for the children, the teacher asks Kevin to do it. The teacher places a serving bowl of applesauce in front of Kevin and puts a serving spoon into his hand and says "scoop." Kevin scoops applesauce from the serving bowl to each child's individual bowl. Snack time is an example of a routine activity that occurs daily during the program. Embedded into the activity was the opportunity to work on Kevin's goal by scooping the applesauce from the serving bowl to the other children's bowls.

<u>Snapshot #3:</u> Circle Time focused on a planned activity. In the middle of the circle area Ms. Martinez has a water wheel in a tub with a bucket of water next to it. Kevin and the other children take turns using a small pitcher to scoop water from the bucket to pour onto the water wheel. This is an example



of a planned activity because the teacher specifically planned the time, place, and actions for the water wheel activity. Kevin was provided the opportunity to address his goal by using the water pitcher to transfer liquid from the bucket to the water wheel.

The snapshots show how the four elements of ABI were incorporated into Kevin's daily classroom routines. First, a functional and generative adaptive



goal was selected, which involved Kevin using objects to transfer food and liquid from one container to another. Second, child directed, routine, and planned activities were designed for Kevin and his classmates. Third, timely integral feedback and consequences provided immediate outcomes of Kevin's actions during the activities. Fourth, Ms. Martinez provided multiple and varied

Learning is embedded during play and routine activity.

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(*i.e.*, sandbox, snack and circle time) learning opportunities throughout the day to address Kevin's goals.

Research on ABI for Children with Autism

As noted, the ABI approach has been described in detail elsewhere (Pretti-Frontczak, & Bricker, 2004), and journal articles have addressed the components of ABI (Apache & Goyakla, 2005; Block & Davis, 1996; Grisham-Brown, Schuster, Hemmeter, & Collins, 2001; Johnson, McDonnell, Holzwarth, & Hunter, 2004; Losardo & Bricker, 1994). While there is extensive research focused on ABI or embedded learning opportunities (Pretti-Frontczak, Barr, Macy & Carter, 2003), literature on the use of ABI with ASD is limited (Schwartz, Billingsley, & McBride, 1998). Consequently, more research in this area would be useful to explore the benefit of using naturalistic approaches in children with ASD.

Future directions for research could focus on at least three areas:

- (1) It would be useful to explore how children with ASD acquire, maintain, and generalize skills when ABI is used as the primary approach. Many professionals who work with young children with ASD blend ABI with other approaches and strategies.
- (2) A second and complementary line of research might examine the effectiveness of ABI in conjunction with other intervention approaches (*e.g.*, both didactic and naturalistic).
- (3) A third line of research should address issues of professional development, such as training inservice and preservice teachers to use ABI with children with ASD.

An increase in research on the use of ABI with children with ASD will not only help inform early childhood practices (Bredekamp & Copple, 1997; Sandall, Hemmeter, Smith, & McLean, 2005), but will help to advance intervention approaches thereby improving outcomes for children with ASD and their families.

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TEACCHing Teachers

By Galene Fraley and Andrea Walker

TEACCH workshops have been offered throughout the U.S. and abroad for many years. Training in Orange County has been made possible through the efforts of the S.U.C.S.E.S.S. Project and most recently, the Southern California Autism Training Collaborative. TEACCH methods have been considered among the 'Best Practice' Interventions for individuals with Autism Spectrum Disorder.

A little history

Almost 40 years ago the University of North Carolina was awarded a federal grant to study children with autism. Six years later, state legislation created Division TEACCH to continue and expand the services and research provided in the grant. TEACCH was mandated to provide statewide services to children with autism and their families;

money was allocated to establish a center and a classroom in the three geographic regions of the state. In 1972, federal legislation required schools to provide education to all children, but there was virtually no information on how to teach children with autism. The question at that time was not

"how to teach children with autism" (as it is now), but "can children with autism learn in a classroom?"

In expanding the availability of services to individuals with autism, TEACCH also engaged in research to study how children with autism learn. As a statewide agency, information gained from one center or one classroom was shared with others in the state, allowing information, skills, and strategies to be tried and tested across a large population. Most people with autism have no inhibitions about let-

behaviors

Effective components of the TEACCH program:

- Funding support
- Connection to applied research
- Collaboration of various centers
- Adaptation of the environment to individuals
- Matching interventions to learning style

ting others know what they like and don't like, and clinicians and teachers across the state were quick to adopt strategies that worked.

Annual training workshops facilitated a sharing of

knowledge for new employees of TEACCH. At that time, there was little information about the learning style of autism, and this training was invaluable. As the numbers of classrooms and clinics within the state grew, the knowledge base expanded rapidly. As early as the mid-to-late 70's school systems in other states were requesting the opportunity to attend the summer training.

Currently, Division TEACCH

offers a variety of workshops, from intensive four or five day CORE to two, three or four day trainings. In-state seminars are listed on the TEACCH website (www.teacch.com). In addition, TEACCH is invited to train in many other states and countries.





Dr. Steve Love provides feedback to participants.

seldom works

Scope and Focus of training

From the beginning, TEACCH based its approach to autism on the behavioral sciences (beginning with conducting a comprehensive assessment, defining appropriate goals and objectives, identifying and using reinforcers, and taking data). These strategies were very helpful, but some students continued to display behaviors that interfered with learning and that were sometimes harmful to themselves and others.

When TEACCH goes to an out-of-state site for a Core (hands-on) training, local staff is asked to select five students, of varying ages and abilities, to attend a "classroom" each day of the training. This is not a model classroom, but rather one that is designed to demonstrate the basic components important to students with autism. The students are chosen carefully, selecting those who can tolerate a novel situation with 30 to 35 adults who will be in and out the room. TEACCH and local staff put together a demonstration classroom, beginning with physical organization individualized for the five students. Each child's unique needs are considered, using furniture to provide clear visual boundaries and to minimize auditory and visual distractions. Additional areas provided in a demonstration classroom are leisure/play, staff tables, independent work, transition, and eating areas.

Once the physical organization is in place, staff begins to develop additional strategies, again individualizing for each student. Each student has a **schedule**, designed to visually let him know where



Tasks are developed to address students' needs.

he is to be, what he will be doing, and the sequence of the events of the day. Some students begin with only one piece of information at a time, while others have

the entire day on their schedule. Some schedules utilize concrete symbols or objects; others use pictures or written words. The next strategy developed is the **work system**, designed to let each student know visually *what work am I going to do?*, *how much work am I going to do?*, *how will I know when I am finished?*, *and what do I do next?* Again, this is individualized, with some students using a left to right system (based on our leftto-right society): activities to be done are placed on the left of the student and finished activities on placed on the right. Some students may use a matching work system, while others may use an assignment list like those given in a regular ed classroom but with the addition of the answer to *what do I do next*.



A complicated assembly task is made clear.

Visual organization of activities and assignments capitalizes on students' attention to visual information. To eliminate the need to organize materials (difficult for many students with autism), activities may be *self-contained*, with materials organized to visually indicate what to do. Minimizing the amount of materials, placing materials in containers one by one instead of all together, and using materials that are *self-explanato-ry* are strategies that help many children. Because students with autism often don't discriminate between relevant and irrelevant information, teachers may highlight the important information.

Other **visual strategies** that may be demonstrated during a Core training are communication systems, Social Stories and Cartoon Conversations (from Carol Gray's work), emotional thermometers (Tony Attwood), and other Best Practice interventions from other recognized experts in the field.

Each day of the training has a specific focus, including an introduction to the characteristics of autism;



Individual and group schedules help to know what comes next in class, music or P.E. sessions.

family issues and perspectives; assessment issues; communication; behavior strategies; developing goals; and the implementation of teaching activities.

The day begins with a lecture, followed by observations in the demonstration classroom, student assess-

ment on the focus topic of the day, and group activities to design, create, and teach a task. Participants are placed in a group, with each group member having a specific role that changes every day. They stay with one student for a day, led and supported by that student's teacher/trainer. The day ends with

small and large groups, to discuss the challenges and successes of the day and address any additional topics.

This training is designed to be practical and to address specific educational and behavioral needs of students with autism. With activities based on theory and practice, participants leave with ideas that can be implemented immediately. Not a cookbook of activities, this training sends participants back to their jobs with new questions to ask, options to try, and strategies to consider as they address the needs of their often puzzling and challenging students.

TEACCH and the Southern California Autism Training Collaborative (SCATC)

SCATC is a collaborative of educators who are interested in coordinating autism-training opportunities in Southern California. The group's goal is to provide equitable access to high demand, national training programs on the topic of autism. Additional goals include gathering and disseminating information regarding teacher competencies, the use of

Greg was interviewed by Andrea.

Evidence-Based Interventions and 'Best Practices' in our educational service delivery models, accountability systems, and collaboration with local institutes of higher learning. The SCATC addresses the needs of school districts as far north as San Luis Obispo, Kern, and Mono Counties, and as far south as San Diego and Imperial Counties, and everything in between.

Since 2000, SCATC and Division TEACCH have organized several opportunities for training. These range from one-day presentations to a four-day "hands-on" type session, like the CORE training.

Most recently, the Fountain Valley School District, at Newland Elementary School, in conjunction with SCATC, hosted a local TEACCH training. The participants came from all over Southern California. The training staff consisted of Steve Love

> and Galene Fraley (Asheville, North Carolina, TEACCH Center), along with three local TEACCH trainers, Stefanie Chiljian (Saddleback Valley USD), Kim Doyle (Ocean View SD), and Analee Kredel (Orange County Department of Education). Local support continues through the

S.U.C.S.E.S.S. Project and within local school districts.

One highlight of the training was the talk by former student participant, Greg Tamkoc, who did an outstanding job assisting the organizers. He shared his post high school plans and his perspectives on autism. Greg gave the participants some suggestions for making this a successful experience for everyone. "... ask lots of questions and have fun with the kids." He has contributed an article for Autism News of Orange County (October 2004 issue).

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Effective Instruction? If it's GOOD, it...

- respects the neurology of autism
- is structured
- is developmental and hierarchical
- is individualized (based on data)
- facilitates independence
- builds "internal" competence motivation
- transitions across contexts (is generalized)
- includes practice of learned skills
- provides positive behavioral supports
- maintains active engagement
- promotes social interactions

Leslie Fagan – District Program Specialist ABC Unified School District – Cerritos, CA Founding member of SCATC & Co-Chairperson

Andrea Walker's comments:

Within our educational programs, we deal with a wide array of student needs during their tenure with us – from early intervention to the rigorous demands of secondary programs. As teachers, we are challenged with requests for competing, and occasionally, incompatible methodologies, and a cadre of options to consider. There are many "camps" in the field of Autism. There are brand names, different professional orientations with long lists of buzzwords, lack of continuity and new developments on the horizon. Education, for all students, is changing and to do it well – a challenge.

Yet while brainstorming "what is good teaching for our students with ASD?" we must think critically and rely on what we know as special education teachers and therapists. One of my SCATC colleagues, Leslie Fagan, drafted the above list as a way to evaluate... no brand names, no conflict of interest... just what the focus needs to be when providing *effective instruction*. ♥

The National Standards Project of the National Autism Center

On March 21, 2006, Regional Center of Orange County invited Dennis Russo, Ph.D., ABPP and Ethan Long, Ph.D., BCBA to present information about The National Standards Project of the National Autism Center. Dr. Russo is the Clinical Director of the National Autism Center and Chief Clinical Director of The May Institute in Randolph, Massachusetts. Dr. Long is the Executive Director of The Bay School in Santa Cruz, California

As the number of individuals diagnosed with autism has increased, the search for successful treatments has intensified. The options are abundant, but the choices are often unclear. Families, practitioners, and other decision-makers are in urgent need of reliable tools to help them distinguish between experimental or anecdotal treatment approaches and those approaches that have been proven effective and are backed by scientific research. As reported by Drs. Russo and Long, The National Standards Project has brought together some of leading experts in autism treatment with the goal of evaluating treatment literature and assessing best practices for the treatment of individuals (birth through 22 years) on the autism spectrum. This panel is currently working together to establish and ratify the set of standards. Their aim is "to create an evidence-based practice guideline for autism intervention (in the areas of educational practices and procedures, and treatment intervention)." Once the standards have been approved, the panel will present and widely disseminate them, providing guidance resource to help families, practitioners, policy-makers, and funding agencies make informed decisions and choose evidencebased treatments. While many approaches to the treatment of autism are currently available, all may not be equally beneficial in helping individuals with autism.

To learn more about the National Autism Center and the National Standards Project, go to **www.nation**alautismcenter.org.

To receive information about future workshops offered by Regional Center of Orange County, email Karen Schaeffer at **kschaeffer@rcocdd.com** with your name and mailing address. ♥

Teaching Narrative Skills to Children with Autism

By Lauren Franke and Christine Durbin



Narrative Development

Simply put, a narrative is a story. Children's early narratives involve relating past experiences and retelling stories. Researchers tell us that children usually begin to construct simple narratives at age two (Fivush, 1994). The earliest narratives are often just one or two words to tell someone about something that is *not present*. For example, a toddler who was excited about having had an encounter with a friendly dog while taking a walk with Mom might, upon returning home to Dad, smile and say "doggie."

Between the ages of two and five, children's narratives progress from simple phrases about past events to more elaborate personal stories (like what happened at school) to episodes from familiar children's books, and on to creating stories of their own.

Importance of Narrative Skills

Narratives are what we use to understand, remember and recount experience. As children progress through the preschool years, narratives play a key role in how they learn about themselves and others. The importance of narrative skills for school success has been reported in the research literature. Bishop and Edmundson (1987), in a prospective, longitudinal study of language-impaired children, found that the best predictor of a positive outcome during the elementary school years was a preschooler's ability to retell a simple story while viewing the pictures from the story. Others

"...the best predictor of a positive outcome was a preschooler's ability to retell a simple story while viewing the pictures..." who have documented the importance of oral narrative skills for social and school success include McCabe and Rollins (1994) and Westby (1991). For preschool children and early readers, understanding and retelling familiar stories are abilities which lead to later text comprehension. These abilities are among a group of skills that are referred to as emergent literacy. They lay the foundation for school literacy as text comprehension has been identified by the National Reading Panel in *Put Reading First* (2000) as one of the five building blocks of reading.

Narrative Development and Autism

Children with autism have particular problems learning to tell stories. The extent and nature of their narrative difficulties vary according to the levels of their cognitive and language skills. Problems learning to tell stories can stem from general difficulties with language learning related to morphosyntax, vocabulary knowledge, word-finding, language comprehension and/or organizing thoughts into words.

Common to many children with autism is the disinclination to verbally share their experiences and to offer narratives to others spontaneously (Capps, Kehres, & Sigman, 1998). They may tell stories, which contain unusual and irrelevant comments, or may be oblivious to the needs of their listeners. For example, they may provide information the listener already has or they might fail to relate enough critical or specific information for the listener to follow what is being said.

Even high-functioning children with autism generally have difficulty with the abstract aspects of language. They have trouble making inferences or "reading between the lines". They also tend to take language very literally which can lead to misinterpretation of figurative language such as idioms.

Many children with autism have excellent memories for rote information. However, even though they may be able to remember and recite the lines of a story verbatim, they often have difficulty telling a summary of the story which "captures" it adequately.

Evidence-Based Practice - Narrative Intervention

The research on narrative skill intervention has demonstrated that directly teaching narrative skills results in improved comprehension and production of oral narratives and improved reading comprehension



(Hayward & Schneider, 2000; Klecan-Aker, 1993; Swanson & Fey, 2003). To date, most narrative intervention research has focused on the acquisition of story grammar as it is widely believed that if children know the underlying framework for stories, they will demonstrate better comprehension and production of stories. The basic components of story grammar include the setting, problem, and outcome.

Teaching story grammar has been shown to be effective with children with language impairment (Hayward & Schneider, 2000) and youngsters with Pervasive Developmental Disorder (Klecan-Aker & Gill, 2005), but there are some young children with autism who are not yet ready to benefit from narrative instruction based on story grammar. The concepts of story grammar might be too complex for them to grasp. Popular children's story plots are often difficult if they have not had comparable experiences. Complex sentences and abstract vocabulary can pose difficulties. These children may not yet be producing the sentence patterns that are needed to tell stories or they might not have developed the ability to refer to prior events using past tense language. Some childrens' language may lack organization and contain irrelevant information. As narrative skills play such an important role in childhood development, we should not wait until these children are able to comprehend story grammar before beginning narrative intervention. One alternative narrative intervention approach, which has been developed at the Scottish Rite Clinic in Long Beach and the Child Development Center at California Pacific Medical Center in San Francisco, Story Lesson Intervention, has been found to be effective with this population of children.

Story Lesson Intervention

Story Lesson Intervention combines principles from Narrative-Based Language Intervention (Swanson, L. A., Fay, M. E., et al., 2005) and Contextualized Skill Intervention (Ukrainetz, 2005). Naturalistic activities, such as story sharing, are combined with skill-based methods like the use of verb tense forms or pronouns. The goal of Story Lesson Intervention is to help children develop skills for generating narratives while at the same time developing crucial underlying language skills.

In a typical Story Lesson, the child is helped to understand and retell a specially designed "elaborated story". Grammatical forms, vocabulary and pragmatic skills specified in the child's language therapy goals are incorporated into the stories and side lessons. Side lessons are short breaks from the story to provide intensive practice of a particular skill or a vocabulary needed to retell the story.

During Story Lesson Intervention, children first learn to tell personal narratives and retell simple stories with two to four pictures. They then retell longer stories that resemble children's literature but have text which has been "elaborated". Finally, children retell stories from children's books which have unrevised texts.

Prerequisite Skills

Prerequisite skills for this intervention include being able to: 1) understand and use a variety of nouns and verbs in simple sentences, 2) follow simple directions, 3) answer basic wh-question forms such as *who*, *what* and *what...doing*, and 4) identify and name objects and actions when looking at pictures in books.

Elaborated Stories

The "elaborated stories" in Story Lesson Intervention incorporate characteristics of parent-child conversations, which have been shown to facilitate memories and story telling skills in children. Haden and Ornstein (2003) reported that children with low level language skills improved in their ability to recount past events in response to their mothers' use of "highly elaborative language" in conversations with their children.

The primary goal of elaborated stories is to make narratives available to and manageable for students with language learning problems. False stories are developmentally appropriate, based on events or routines the child is familiar with, and easy to understand. They provide a context for learning new vocabulary. Elaborated stories contain simple sentence patterns that increase in complexity as the child's understanding and production of language improve. To reduce the

cognitive complexity of the stories, Blank, McKirdy, and Payne, authors of *Teaching Tales* (1997), suggest that the time span of stories be short. Pictures for elaborated stories are clear and uncluttered with details that are irrelevant to the story.

Since stories like this are difficult to find, we have written our own stories for 2-, 3-, and 4-picture sequences, which are similar to the model presented in Teaching Tales (Blank, McKirdy and Payne, 1997). Following are guidelines for writing scaffolded stories of your own.

Story Writing Guidelines

Compose developmentally appropriate stories that contain concepts the child understands or that can be taught using pictures, toys and other manipulatives.

- Use explicit language that reduces the need for "reading between the lines" and offers the background information needed to build understanding of the story events and vocabulary.
- Use sentence patterns at slightly above the child's developmental level.

- Write three to six sentences per picture.
- Intermix these types of stories:
 - <u>Event Stories</u> are stories that simply describe an event without referring to characters' mental states.
 - <u>"Understanding Others" Stories</u> have references to characters' mental states such as their intentions and wishes.
 - <u>Personal Narratives</u> are about the child's own experiences.
- Write syntactically easier or more advanced stories depending on the child's level.

Story Pictures

Pictures for stories can come from a variety of sources. Digital photos of the child participating in an activity can be the starting place for personal narratives. You may choose to draw your own pictures. There are also a variety of sequence picture sets available for purchase.

SAMPLE STORIES

• Event Story



Unelaborated Story:

A dad and a boy are going to wash the car.

Elaborated Story:

A dad and a boy have a hose and a bucket. Their car is dirty. And they want to wash the car. They are going to do that. (J)

They are washing the car.

The dad has the hose.

the hose.

and a sponge.

Water is coming out of

The boy has a sponge.

The boy and his dad can

clean the car with water

Now they are washing the windows.

They finished cleaning the outside of the car. Now the boy and his dad can wash the inside. Soon the car will be all clean.



The car is clean.

The boy and his dad were cleaning the car. Now they are done. The car is all clean.

• "Understanding Others" Story



Easier Syntax:

Here is a cat. There is some milk. The cat is looking at the milk. The cat **wants** some milk.

More Advanced Syntax:

Here is a cat next to some milk on the floor. The cat is looking at the milk. The cat is **thinking** it **wants** some milk.

• Personal Narrative









Then we had French fries.

I went to the races with my family.

Conducting a Story Lesson

<u>Step 1 – Listening</u>: The adult places one picture at a time in front of the child and reads three to six sentences related to it. When the sentences for a picture are completed, the adult turns that picture face down and goes on to the next picture. During this step the child just listens to the story.

<u>Step 2 – Imitation</u>: The adult repeats Step 1, but this time the child imitates each sentence if he or she is working on expanding or strengthening syntactic patterns. If the child imitates incorrectly, the sentence is repeated and the child is asked to imitate it again until he or she is able to produce it correctly.

<u>Step 3 – Shared Retelling</u>: The child is asked to tell the story with the adult. The pictures are left face down on the table. The adult retells the story, *pauses* before key words, and encourages the child to fill-inthe-blank or finish the sentence. Step 3 is repeated several times as needed to help the child with recalling story information.

Easier Syntax:

The cat walked over to the milk.

The cat walked over to the milk.

Now the cat can drink some milk.

It is drinking some milk.

More Advanced Syntax:

The cat **likes** the milk.

It will drink all of the milk.

The cat **likes** the milk.

<u>Step 4 – Independent Retelling</u>: The child is asked to retell the story on his or her own. The pictures remain face down on the table.

If the retelling is adequate (see *Criteria for Acceptable Story Retelling* below), the child is finished with the story. If the retelling does not meet criteria, the following prompts are offered to facilitate the child's production of an acceptable summary of the story.

Prompts

1. Visual Scaffolds: For children, who are readers, the printed text of the story can be presented as a visual support while the story is repeated by the adult; alternatively, stickwriting (Ukrainetz, 1998) can be used. Stickwriting involves drawing sketches with simple stick figures as a means to provide a visual reminder

of the story content and sequence. After the story is retold with visual support, the child is again asked to tell the story independently. If the retelling is still not adequate, the adult moves on to Prompt 2.

2. Modeling Two Summaries: The adult offers two slightly different examples of succinct, past tense summaries of the story. Visual support can be provided by presenting print versions of the summaries or by stickwriting while the sample summaries are read by the adult. After the two summaries are modeled, the child is again asked to tell the story independently. If the retelling is not adequate, Prompt 3 is presented.

3. Modeling One Summary: Prompt 2 is repeated, however this time only one succinct summary is modeled for the child. If the child is still not able to produce an adequate independent retelling of the story, the adult repeats the story and asks the child to imitate it in manageable segments.

Visual Scaffolds

Show the written story text or use stickwriting to provide visual support as needed. The visual support is removed for the final retelling of the story.

Mastery

Practice continues until the child can give an adequate summary without prompts or visual support!

Case example

One five year old autistic boy, named Bobby, was read the scaffolded version of the car washing story (sample stories section above). Since Bobby's syntax skills were weak, he was asked to repeat each story sentence. When he had some difficulty imitating some of the longer sentences, a procedure called "chunking" was utilized. Chunking involves having the child first imitate sentence segments and then build toward imitation of the complete sentence. One sentence from the car washing story was chunked in this manner: "The boy and his dad – were washing – the car." Bobby first imitated each segment separately, then the first two segments together, and finally the full sentence.

Bobby's first retelling of the story did not meet criteria for an acceptable story retelling. However, after viewing the story in stickwriting format and retelling the story five more times with prompts offered as needed, Bobby proudly produced the following independent retelling: "The dad and his son were washing the car. They used a sponge and a hose and they got the car clean."



Progression in Story Lesson Intervention

In Story Lesson Intervention we begin with personal narratives and 2-picture stories. As these are mastered we move on to 3- and 4-picture stories. When children master retelling 4-picture stories independently, slightly longer stories that are more like children's literature are practiced.



A computerized narrative intervention program called "Timo Stories - Launching Literacy" was developed for use at this stage of intervention. Here, six elaborated six-picture stories, comprehension questions, story picture sequencing activities and six vocabulary tasks center around ten vocabulary words from each story. The vocabulary activities range in level of cognitive difficulty and include object name recognition, comprehension of adjective-noun phrases, word associations, categorization, comprehension of negative statements and verbal reasoning. This level provides a bridge for moving to longer, unelaborated stories in children's books and videos. During the final level of Story Lesson

Intervention, children enter the stage of emergent literacy, retelling familiar story books.

To learn more about Story Lesson Intervention, attend a "Coaching Comprehension and Creating Conversation" seminar taught by Lauren Franke through the Orange County Department of Education. For information about this seminar, contact Andrea Walker at (714) 966-4198.

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Good Idea Corner



This *Good Idea* was spotted in the Interagency Assessment Center, Orange County:

Taping a train track on the floor in front of the classroom exit helped a young fan of Thomas the Tank to wait patiently while lining up with his peers for outside play.



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Task Galore produces a series of "How to" books with creative photo material based on the TEACCH tradition. Monthly tasks such as the above are shared under http://www.tasksgalore.com/Task_of_the_ Month_May06.htm.

This task shows the beginning steps of literacy development, one of which is learning letters and words, how these letters are sequenced and that they come together to create words. Students may begin spelling words by matching the letters. As the student begins to demonstrate confidence in the task, letter prompts can be removed until the words are correctly spelled independently.

Autism News of Orange County – RW

A Video Modeling Program for Teaching a Young Child with Autism

By Tamara Fortney

Introduction

Prevalence rates for autism spectrum disorders (ASD) have increased significantly over the last several decades. The Center for Disease Control (CDC) found prevalence rates for ASD to be between 1 and 3 per 500 individuals. Although individuals with ASD vary in their severity of symptoms and co-existing features, common to this disorder are impairments in social interaction, communication, and restricted patterns of behavior. Presently, there is no cure for autism, however, experts agree that family-based early intervention services are imperative for young children with autism (Koegel & LaZebnik, 2004).

In structured educational environments all children will hopefully learn how to sit and attend, remain on task during "teaching", process what they perceive, and understand cause and effect. For many kinds of learning, children naturally and spontaneously imitate behaviors of adults and peers in their environment. However, imitation is often a difficult task for many children with autism. The National Research Council (2001) lists deficits in the ability to imitate as a one of the main characteristics that differentiates autism from other developmental disorders in the 20-month to 36-month age range. It has been theorized that imitation is difficult for children with autism because of impairments in social interaction.

One potential solution for teaching new behaviors to students with autism while reducing the stress of social interaction and proximity is video modeling. The video modeling paradigm requires a child to watch a videotape of a person performing a target behavior and subsequently, to imitate the behavior. Haring, Kennedy, Adams, and Pitts-Conway (1987) demonstrated the usefulness of using video modeling to teach young adults with autism community purchasing skills. Charlop-Christy, Le, and Freeman (2000) reported the efficacy of video modeling over *in vivo* (live) modeling for teaching developmental skills to children with autism. Despite the effectiveness of video modeling in older individuals, less attention has *Hay* been paid to the use of *car* this technique for very young children with autism.



Hayden imitated rolling a car after seeing a peer on the video model it.

The purpose of this paper is to describe the efficacy of video modeling for teaching imitation behaviors to a young boy with autism. Hayden, the participant chosen for the video modeling program, demonstrated difficulties acquiring imitative behaviors using traditional live modeling methods. In addition, parents reported that he met criteria for video modeling in that he usually watched at least 30-60 minutes of television or videos per day (Charlop-Christy, et. al. 2000).

The Participant

Hayden was 26-months old when he began attending the North Orange County Interagency Assessment Center (NOC-IAC). He appeared unaware of what other children and staff around him were doing and he rarely imitated adults or peers during the school day. Hayden's cognitive development on the Bayley Scales of Infant Development II was estimated at 22-months. Performance on language-based tasks was significantly less developed; he did not receptively identify or expressively label familiar objects, and primarily communicated his wants and needs using body language and limited gestures (*i.e.*, hand leading).

Traditional Live Modeling

Nonverbal imitation was chosen as a goal to help Hayden build an awareness of the environment, as well as establish and maintain attention. Three playbased behaviors were initially targeted for imitation: shaking a maraca, rolling a toy car, and banging a drum. Live modeling instruction consisted of staff demonstrating an action (*i.e.*, rolling a toy car), saying, "do this," and then providing the student with the appropriate materials.

Each behavior was presented three times to provide Hayden with multiple trials for each request. It must be noted that although Hayden appeared to enjoy open-ended activities, transitioning to the work area for structured activities was difficult. He frequently threw himself on the floor and attempted to scatter work materials or throw objects. Because of Hayden's occasional success and the importance of learning to imitate others, we persisted in using live modeling for 31 sessions. When it was determined that Hayden was only tolerating 8-10 trials per session, the decision was made to plan and implement a video modeling program.

Video Modeling

A peer male model (age 3-years, 10-months) was



selected to perform play-based behaviors while seated in front of a digital video camera. Tasks preformed included the original behaviors presented in live modeling and nine additional behaviors (banging a toy hammer, spinning a top, putting a toy phone to ear, pretending to drink from a cup, feeding a toy baby, blowing into a harmonica, clapping hands, stomping feet, and waving goodbye). The video was initially edited using a television/VCR and a digital video camera. Each behavior was edited three times onto a videotape to provide multiple trials for each request.

Video modeling involved Hayden sitting at a worktable with a 9-inch television approximately three feet in front of him. While watching the video model

perform a target behavior, staff handed Hayden the appropriate materials and said, "Do the same."

After informal testing of Hayden's responses to video modeling, it was decided that in addition to the original three behaviors presented with live modeling procedures, the nine behaviors formerly mentioned would be targeted. Formal data collection began for video modeling at the onset of the program.

Experimental Data Design and Collection

A total of four experimental phases were reported. As noted previously, 31 sessions of data were collected during the initial live modeling procedure (Phase I). This was followed by 19 sessions of the video modeling approach just described (Phase II). A return to live modeling procedures was implemented for 16 sessions (Phase III). Finally, 17 sessions of data involving video modeling was collected (Phase IV). Two measures were obtained for each phase: number of trials and percent correct. A correct response was recorded when Hayden initiated the accurate imitation of the target behavior within five seconds after presentation. The number of trials was based on student behavior and served as an indicator of Hayden's ability to tolerate the activity. That is, the staff had the



A video model helps Hayden imitate toy play.

freedom to terminate the training session if they determined that Hayden was unable to be redirected back to task due to behavioral difficulties.

Results and Discussion

The data collected for the four phases of the instructional program are reported in Figures 1 and 2. Figure 1 presents the number of trials tolerated. During Phase I of live modeling, Hayden averaged less than ten tolerated trials per session. Introduction to video modeling (Phase II) shows that his response to video modeling was almost immediate and progressed over the next 12 sessions. Phase III re-instituted live modeling procedures: behaviors targeted were identical to behaviors during Phase II. This was done to investigate the possibility that Hayden would generalize the ability to tolerate structured teaching activities from the video modeling condition to live models. Because there is high variability in the data of Phase III, the number of tolerated trials in Figure 1 does not strongly support generalization. Improvement was noted relative to baseline and the overall average for Phase III is greater than the baseline condition (Phase I). Next, a return to video modeling conditions (Phase IV) was implemented using a 4-year-old female video model. Changing the model from male to female triggered an immediate

increase in the number of tolerated trials. The data for Phase IV support a reduction in variability and a plateau just below 50 trials.

The percent correct data, presented in Figure 2, show relatively large variability overall. However, examination of overall averages for each phase support the conclusion that video modeling was an effective intervention for this specific student. Although generalization was not shown in our data, it is important to note **informal observations strongly suggest that this intervention led to an increase in spontaneous imitation of adults and peers.** Additionally, staff reported increased sustained attention during

structured adult directed activities. Hopefully video modeling can be effectively implemented for other students with autism to teach a variety of behaviors. Quill (2000) suggests video modeling can be used to teach social play, community expectations (child watches peer go to the dentist), and conversational skills. More research is required to expand our findings to other children with autism and other curriculum areas.

Tamara Fortney, SLP-CCC

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Ten Things Every Child with Autism Wishes You Knew

By Ellen Notbohm

Some days it seems the only predictable thing about them is the unpredictability. The only consistent attribute – the inconsistency. Autism is often baffling, the behaviors perplexing and downright difficult, even to those who spend their lives around it.

Autism was once thought "incurable," but every day now, individuals with autism are showing us that they can overcome, compensate for and otherwise manage many of its most challenging aspects. A basic understanding of autism gives us the ability to have tremendous impact on their journey towards productive, independent adulthood.

Here are ten things every child with autism wishes you knew:

1. I am first and foremost a child – a child with autism. I am not primarily "autistic." My autism is only one aspect of my total character. It does not define me as a person. Are you a person with thoughts, feelings and many talents, or are you just fat (overweight), myopic (wear glasses) or klutzy (uncoordinated, not good at sports)? Those may be things that I see first when I meet you, but they are not really what you are all about.

As an adult, you have some control over how you define yourself. If you want to single out one characteristic, you can make that known. As a child, I am still unfolding. Neither you nor I yet know what I may be capable of. Defining me by one characteristic runs the danger of setting up an expectation that may be too low. And if I get a sense that you don't think I "can do it," my natural response will be: Why try?



2. My sensory perceptions are disordered. The ordi-

nary sights, sounds, smells and touches of everyday life that you may not even notice can be downright painful for me. I may appear withdrawn or belligerent to you but I am really just trying to defend myself. Here is why a "simple" trip to the grocery store may be hell for me:

My hearing may be hyper-acute. The loudspeaker booms today's special. Musak whines from the sound system. Cash registers beep; the coffee grinder chugs. The meat cutter screeches, babies wail, carts creak. My brain can't filter all the input and I'm in overload!

My sense of smell may be highly sensitive. The fish at the meat counter isn't quite fresh, the guy standing next to us hasn't showered today, the deli is handing out sausage samples, the baby in line ahead of us has a poopy diaper, they're mopping up pickles on aisle 3.... I am dangerously nauseated.

I am very visually oriented and because of this, vision may be my first sense to become overstimulated. Fluorescent lights hum and vibrate. The light appears to pulsate; it bounces off everything and distorts what I am seeing – the space seems to be constantly changing. There are moving fans on the ceiling, too many items for me to be able to focus (I may compensate with "tunnel vision"), so many bodies in constant motion. All this affects my vestibular sense, and now I can't even tell where my body is in space. 3. Please remember to distinguish between *won't* (I choose not to) and *can't* (I am not able to).

It isn't that I don't listen to instructions. It's that I can't understand you. When you call to me from across the room, this is what I hear: "*&^ %@, Billy. #\$%&*..." Instead, come speak directly to me in plain words: "Please put your book in your desk, Billy. It's time to go to lunch." This tells me what you want me to do and what is going to happen next. Now it is much easier for me to comply.

4. I am a concrete thinker. I interpret language very literally. It's confusing for me when you say, "Hold your horses, cowboy!" when what you really mean is "Please stop running." Don't tell me something is a "piece of cake" when there is no dessert in sight and what you really mean is "this will be easy for you to do."

Idioms, puns, nuances and sarcasm are lost on me.

5. Be patient with my limited vocabulary. It's hard for me to tell you what I need when I don't know the words to describe my feelings. I may be hungry, frustrated, frightened or confused but right now those words are beyond my ability to express. Be alert for body language, withdrawal, agitation or other signs that something is wrong.

There's a flip side to this: I may sound like a "little professor" or movie star, rattling off words or whole scripts well beyond my developmental age. These are messages I have memorized from books, TV or other people to compensate for my language deficits because I know I am expected to respond when spoken to. I don't really understand the context or the terminology I'm using. I just know that it gets me off the hook for coming up with a reply. 6. Because language is so difficult for me, I am very visually oriented. Show me how to do something rather than just telling me. Show me many times. Patient repetition helps me learn.

A visual schedule is extremely helpful as I move through my day. Like your day-timer, it relieves me of the stress of having to remember what comes next and makes for smooth transitions between activities. Here's a great website: www.cesa7.k12.wi.us/sped/autism/structure/st r11.htm.

- 7. Focus and build on what I can do rather than what I can't do. Like you, I can't learn if I'm constantly made to feel that I'm not good enough and that I need "fixing". Trying anything new when I am almost sure to be met with criticism becomes something to be avoided. Look for my strengths and you will find them. There is more than one "right" way to do most things.
- 8. Help me with social interactions. It may look like I don't want to play with the other kids on the playground, but it's just that I simply do not know how to start a conversation or enter a play situation. Encourage other children to invite me to join them at kickball or shooting baskets; it may be that I'm delighted to be included.
- **9. Try to identify what triggers my meltdowns.** Meltdowns and blow-ups are even more horrid for me than they are for you. They occur because one or more of my senses has gone into overload. If you can figure out why my meltdowns occur, they can be prevented.

PARENT / FAMILY

10. If you are a family member, please love me unconditionally. Banish thoughts like, "Why can't he just...." You did not fulfill every expectation your parents had for you, and you wouldn't like being constantly reminded of it. I did not choose to have autism. But remember that it is happening to me, not you. Without your support, my chances of successful, self-reliant adulthood are slim. With it, the possibilities are broader than you might think.

View my autism as a different ability rather than a disability. Look past what you may see as limitations and see the gifts autism has given me. I may not be good at eye contact or conversation, but have you noticed that I don't lie, cheat at games or pass judgment on other people? Also true that I probably won't be the next Michael Jordan. But with my attention to fine detail and capacity for extraordinary focus, I might be the next Einstein. Or Mozart. Or Van Gogh. They had autism too.

It won't happen without you as my foundation. Think through some of those societal 'rules' and if they don't make sense for me, let them go. Be my advocate, be my friend, and we'll see just how far I can go.

Ellen Notbohm is author of the book "Ten Things Every Child with Autism Wishes You Knew", winner of iParenting Media's Greatest Products of 2005 Award, and a ForeWord 2005 Book of the Year finalist. She is co-author of "1001 Great Ideas for Teaching and Raising Children with Autism Spectrum Disorders", winner of Learning Magazine's 2006 Teacher's Choice Award, and a columnist for Autism Asperger's Digest and Children's Voice. Your comments and requests for reprint permission are welcome at emailme@ellennotbohm.com. **♥**



Autism News of Orange County – RW

Upcoming Staff Development, Conferences and Parent Trainings

(Partial Listing – June to September 2006)

There are several opportunities for continuing education and support that will be offered by various organizations. For OC Kids, the **Regional Center of Orange County** (RCOC), and the **S.U.C.S.E.S.S. Project of Orange County** strive to provide affordable fees to both families and staff. Each session has a specific focus, some pertaining to early interventions, some with more of an emphasis on the older student. Registrations may be very limited, therefore call early! Other sessions will be available throughout the year.

Date/Time/Place	Topic/Speaker	Dev. level	Approximate Fee	Contact
June 7, 14, 21 & 28 Wednesday evenings 6:30 – 9:00 PM RCOC – Santa Ana	Behavior Management Workshops for Parents <i>Jose Rios, BCBA</i>	All Ages	Free	RCOC Thelma Day (714) 796-5223
July 11, 18, 25, Aug. 1 & 8 6:30 – 9:00 PM RCOC – South office	Behavior Management and Toilet Training Workshops for Parents <i>Paul Coyne, PhD.</i>	Early to middle age developmental levels	Free	RCOC Thelma Day (714) 796-5223
Aug. 8, 15, 22, 29 & Sept. 5 6:30 – 9:00 PM RCOC – Westminster	Behavior Management and Toilet Training <i>Joyce Tu, EdD, BCBA</i>	Early to middle age developmental levels	Free	RCOC Thelma Day (714) 796-5223
Fall series to be determined – Tuesdays 6:00 – 8:00 PM	SEE-PAC Parent Education Series	Early	\$25 per family	Call For OC Kids (714) 939-6118 For specific information
Sept. 13 4:00 – 8:00 PM OCDE	Overview: "Social Thinking – I LAUGH Model" <i>Michelle Garcia Winner</i>	Developmental ages 8+	\$30 Includes a boxed meal	S.U.C.S.E.S.S. Project (714) 966-4137
Sept. 14 8:30 – 3:00 PM OCDE	Day One: "Social Thinking – I LAUGH Model" <i>Michelle Garcia Winner</i>	Developmental ages 8+	Approximately \$65	S.U.C.S.E.S.S. Project (714) 966-4137
Sept. 15 8:30 – 3:30 PM OCDE	Day Two: "Social Thinking – I LAUGH Model" <i>Michelle Garcia Winner</i>	Developmental ages 8+	Approximately \$65	S.U.C.S.E.S.S. Project (714) 966-4137
Sept. 25 & 26 8:30 – 3:30 PM OCDE	"Links to Language" 2-Day training session Pam Payne and Lauren Franke, Ph.D.	All Ages	Approximately \$255 Includes the "Links to Language" Training Manual	S.U.C.S.E.S.S. Project (714) 966-4137
Sept. 27 8:30 – 3:30 PM OCDE	"Paragraphs Program" <i>Pam Payne</i>	For those who have previously attended the "Links" training	Approximately \$100	S.U.C.S.E.S.S. Project (714) 966-4137

Locations: OCDE = Orange County Department of Education – 200 Kalmus Drive, Costa Mesa, CA 92628 RCOC = Regional Center of Orange County – 801 Civic Center Drive, Santa Ana, CA 92702

SOME EXAMPLES OF AUTISTIC BEHAVIOR Algunos ejemplos del comportamiento de personas con autismo



Avoids eye contact Evita el contacto visual



Lacks creative "pretend" play Carece el juego creativo



Does not like variety: it's not the spice of life No demuestra interés en variedad



Laughs or giggles inappropriately Risa/reír inadecuadamente



Copies words like a parrot ("echolalic") Repíte las palabras como un loro ("en forma de echo")



Shows indifference Demuestra indiferéncia



Shows fascination with spinning objects Demuestra fascinación con objetos que gíran



Shows one-sided interaction Demuestra interacción que es unilateral

Some Examples of Autistic Behavior Algunos ejemplos del comportamiento de personas con autismo

- Difficulty with social interactions. Tienen dificultad para socializar con otras personas.
- Problems with speech. Tienen problemas con su lenguaje.
- Disturbed perception.
- Tienen una percepción anormal de los sucesos que acontecen a su alrededor. • Abnormal play.
- Su forma de jugar es anormal.
- Resistance to change in routine or environment.
- Se resisten a cambios en sus actividad rutinarias ó a su medio ambiente.



Shows preoccupation with only one topic Demuestra preocupación/interés en solo un tema/asunto



Displays special abilities in music, art, memory, or manual dexterity Demuestra capacidades especiales en musica, arte, memoria or destreza manual



Shows fear of, or fascination with certain sounds Demuestra miedo de/ó fascinación con ciertos sonidos



Does not play with other children No juega con otros niños