



utah personnel development center
Building a Framework for Student Success



Evidence Based Practices

For Students with Autism
And Significant Cognitive Disabilities

Utah Resources for Parents and Teachers

February, 2010

**Evidence-Based Practices
For Students with Autism and Significant Disabilities**

Evidence Based Practice	Description	Target Population	More Information is available from, but not limited to the following:
Communication			
1. Functional Communication	Functional communication training is a systematic practice to replace inappropriate behavior or subtle communicative acts with more appropriate and effective communicative behaviors or skills. First the interfering behavior is analyzed to determine its communicative function through functional behavioral assessment, and then a replacement behavior is taught to take its place. (National Professional Development Center on Autism Spectrum Disorders)	Children who are nonverbal or have low verbal ability	PECS manual Utah LRBI Jocelyn Taylor Christine Timothy National Professional Development Center for Autism Spectrum Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm
2. Pivotal Response Training	Pivotal Response Training is a method of systematically applying the scientific principles of applied behavior analysis. PRT builds on learner initiative and interests and is particularly effective for developing communication, language, play, and social behaviors. This practice promotes more efficient and effective intervention by enhancing four pivotal learning variables that provide the foundational skills upon which other skills are based: motivation, responding to multiple cues, self-management, and self-initiations. . (National Professional Development Center on Autism Spectrum Disorders)	Students who are nonverbal or have low verbal ability	STAR Autism Program UPDC <u>How to Teach Pivotal Behaviors to Children with Autism: A Training Manual</u> - Koegel et al. National Professional Development Center for Autism Spectrum Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm

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<p>3. Picture Exchange Communication System</p>	<p>The Picture Exchange Communication System (PECS) was developed at the Delaware Autistic Program (DAP) and was designed to teach young children to communicate in a social context (Bondy & Frost, 1994; Frost & Bondy, 2002). Using PECS, learners are taught to give a picture of a desired item to a communicative partner in exchange for the item. There are six phases of PECS instruction, with each phase building on the last. The phases are: (1) Teaching the physically assisted exchange, (2) Expanding spontaneity, (3) Simultaneous discrimination of pictures, (4) Building sentence structure, (5) Responding to, “What do you want?” and (6) Commenting in response to a question. (From National Professional Development Center for Autism Spectrum Disorders.</p>	<p>Children who are nonverbal or have low verbal ability</p>	<p>Autisminternetmodules.org</p> <p><i>PECS: The Picture Exchange Communication System</i> by Lori Frost and Andy Bondy</p> <p><i>A Picture's Worth: PECS and Other Visual Communication Strategies in Autism</i> by Andy Bondy and Lori Frost</p> <p>Picture assisted communication training is provided by the Utah State Office of Education</p>
<p>3. Voice Output Communication and Speech Generating Devices</p>	<p>Speech generating devices (SGD) are electronic devices that are portable in nature and can produce either synthetic or digital speech for the user. SGD may be used with graphic symbols, as well as with alphabet keys. A variety of skills can be targeted for intervention, including initiation, expressive language (verbal), joint attention/gestures (non-verbal), and pragmatics (conversation skills). Reading and math skills can also be addressed using SGD. (National Professional Development Center on Autism Spectrum Disorders)</p>	<p>Children who are nonverbal or have low verbal ability</p>	<p>Speech Language Pathologists Jocelyn Taylor</p> <p>UAAACT teams www.usor.utah.gov:81/uaact/</p>
<p>4 Parent Implemented Interventions</p>	<p>With parent-implemented intervention, parents are taught to provide individualized intervention to their child to improve/increase a wide variety of skills and/or</p>	<p>Everyone</p>	<p>Utah LRBI Utah Parent Center Family to Family networks</p>

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	to reduce interfering behaviors. Parents learn to implement practices in their home and/or community through a structured parent training program (National Professional Development Center on Autism Spectrum Disorders)		
Instructional Practices			
6. Task Analysis and Chaining	<p>Task analysis is the process of breaking a skill into smaller, more manageable steps in order to teach the skill.</p> <p>Chaining is an instructional procedure used in applied behavior analysis. It involves reinforcing individual responses occurring in a sequence to form a complex behavior. It is frequently used for training behavioral sequences (or "chains") that are beyond the current repertoire of the learner.</p>	Everyone	<p>UPDC Effective Strategies DVD</p> <p>University programs</p> <p>Teaching Research (available through Davis District and UPDC)</p> <p>Public Domain Instructional Programs (available from UPDC, Davis District websites, or www.iseesam.com)</p>
7. Discrete Trial Training	<p>Discrete trial training is a one-to-one instructional approach used to teach appropriate behavior and communication skills in a planned, controlled, and systematic manner. DTT is appropriate for skills that can be taught in small repeated steps. Each trial or teaching opportunity has a definite beginning and end. The use of antecedents and consequences is carefully planned and implemented. Positive praise and/or tangible rewards are used to reinforce desired skills or behaviors. Data collection provides teachers/practitioners with information about beginning skill level, progress and</p>	Students with autism and significant cognitive disabilities	<p>ASSERT Program</p> <p>Partners to Success</p> <p>STAR Program</p> <p>UPDC</p> <p>Teaching Research Curriculum available from Davis District or UPDC</p> <p>www.lrethinkautism.com</p> <p>www.maximumpotentialkids.com</p> <p>www.autismpro.com</p>

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	challenges, skill acquisition and maintenance, and generalization of learned skills or behaviors. (National Professional Development Center on Autism Spectrum Disorders)		
8. Prompting	<p>Prompting procedures include any help given to learners to assist them in using a specific skill. Prompts are generally given by an adult or peer before or as a learner attempts to use a skill. Prompting procedures that have been shown to be effective with learners with ASD include least-to-most-prompts, simultaneous prompting, and graduated guidance and can include verbal, gestural, and model prompts.</p> <p>(National Professional Development Center on Autism Spectrum Disorders)</p>	Students with autism and significant cognitive disabilities	<p>Partner to Success ASSERT Program Utah LRBI Westling, D.L. (2004) Teaching Students with Severe Disabilities. Pearson Education, Inc (3) 167 http://www.indiana.edu/iaca/education/practicalrecomend.htm. Effective Instruction Chaining DVD - UPDC</p>
9. Time Delay	<p>Time delay focuses on fading the use of prompts during instructional activities and has been demonstrated to be effective with skills in the academic, communication, play and social domains. A brief delay is provided between the initial instruction and any additional instructions or prompts. With progressive time delay, teachers and other practitioners gradually increase the waiting time between an instruction and any prompts that might be used to elicit a response. With constant time delay, a fixed amount of time is always used between the instruction and the prompt as learners become more proficient at using the new skill. (National</p>	Students with autism and significant cognitive disabilities	<p>PECS STAR Autism Program Pivotal Response Educating Students with Significant Disabilities Curriculum provided by UPDC</p> <p>National Professional Development Center for Autism Spectrum Disorders</p>

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	Professional Development Center on Autism Spectrum Disorders)		http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm
10. Computer Aided Instruction	Computer-aided instruction includes the use of computers to teach academic skills and to promote communication and language development and skills. It includes modeling appropriate skills and behaviors and providing competent tutors. (National Professional Development Center on Autism Spectrum Disorders)	Everyone	wwwautismcoach.com www.compasslearning.com
11. Naturalistic Interventions	Naturalistic intervention is a collection of practices including environmental arrangement, interaction techniques, and behavioral strategies that are used to promote appropriate communication and social skills. These practices encourage specific target behaviors based on learner's interests and build more elaborate learner behaviors that are naturally reinforcing and appropriate to the interaction. (National Professional Development Center on Autism Spectrum Disorders)	Students with autism, significant disabilities	UPDC STAR Autism Program ASSERT Pro-ED publishers <u>How to Do Incidental Teaching</u>
12. Structured Work Systems	Structured work systems are an element of structured teaching that emphasizes visual supports that are used to increase and maximize independent functioning and reduce the frequent need for teacher correction and reprimand. An individual work system is defined as a visually organized space where learners independently practice skills that have been previously mastered under the direct supervision of an adult and are frequently used for academic tasks, as well as vocational tasks. A work system visually communicates at least four pieces of information to learners: (1) the tasks they are		TEACCH program Partners for Success ASSERT Program Davis District website – Resources for teachers of students with significant disabilities National Professional Development Center for Autism Spectrum

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	supposed to do, (2) how much work there is to be completed, (3) how learners know they are finished, and (4) what to do when finished. (National Professional Development Center on Autism Spectrum Disorders)		Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm
Social Skills			
13. Social Skills Groups	Social skills groups are used to teach individuals with autism spectrum disorders ways to appropriately interact with typically developing peers. Social skills groups typically involve small groups of two to eight individuals with disabilities and a teacher or adult facilitator. Most social skill group meetings include instruction, role-playing or practice, and feedback to help learners with ASD acquire and practice communication, play, or social skills to promote positive interactions with peers. (National Professional Development Center on Autism Spectrum Disorders)	Everyone	UPDC Utah LRBI Commercial Social Skill Curricula <i>Superheroes Social Skills Program</i> - University of Utah <u>Building Social Relationships</u> - Scott Bellini
14. Peer Mediated Instruction and Intervention	Peer-mediated instructional approaches are used to teach typically developing peers ways to interact with and help children and youth with ASD acquire new behavior, communication, and social skills by increasing social opportunities within natural environments. PMII is also a useful strategy for promoting positive transitions across settings. Peers are carefully and systematically taught strategies for engaging children and youth with ASD in positive and extended social interactions in both teacher-directed and learner-	Students with autism, significant disabilities	Training Module available at www.autisminternetmodules.org Utah LRBI

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	initiated activities. (National Professional Development Center on Autism Spectrum Disorders)		
15. Social Narratives	<p>Social narratives are interventions that describe social situations in some detail by highlighting relevant cues and offering examples of appropriate responding. They help learners adjust to changes in routine and adapt their behaviors based on the social and physical cues of a situation, or are used to teach specific social skills, communication skills, or behaviors. Social narratives are individualized according to learner needs and typically are quite short, perhaps including pictures or other visual aides. Sentence types that are often used when constructing social narratives include descriptive, directive, perspective, affirmative, control, and cooperative. (National Professional Development Center on Autism Spectrum Disorders)</p>	Students with autism, significant disabilities,	<p>Jocelyn Taylor, USOE</p> <p><u>Social Stories</u> by Carol Gray www.thegraycenter.org</p> <p>National Professional Development Center for Autism Spectrum Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm</p>
16. Video Modeling	<p>Video modeling uses video recording and display equipment to provide a visual model of the targeted behavior or skill (typically in the behavior, communication, play or social domains). Types of video modeling include basic video modeling, video self-modeling, point-of-view video modeling, and video prompting. Basic video modeling involves recording someone other than the learner engaging in the target behavior or skill. The video is then viewed by the learner at a later time. Video self-modeling is used to record the learner displaying the target skill or behavior and is reviewed later. Point-of-view video modeling is when</p>	Students with autism, significant disabilities	<p>Jessica Roberts website http://yourownsocialstories.googlepages.com</p> <p><u>Success Stories: Using Video Stories to Connect</u>. . . by Jessica Roberts</p> <p>Bellini, S. & Akullian, J. Meta-Analysis of Video Modeling and Video Self-Modeling Interventions for Children and Adolescents</p>

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<p>Video Modeling (cont.)</p>	<p>the target behavior or skill is recorded from the perspective of the learner. Video prompting involves breaking the behavior skill into steps and recording each step with incorporated pauses during which the learner may attempt the step before viewing subsequent steps. Video prompting may be done with either the learner or someone else acting as a model. (National Professional Development Center on Autism Spectrum Disorders)</p>		<p>with Autism Spectrum Disorders, Exceptional Children: Spring 2007; 73,3</p>
<p>17. Visual Supports</p>	<p>Visual supports are any tool presented visually that supports an individual as he or she moves through the day and are applicable to many skill domains. Visual supports might include, but are not limited to, pictures, written words, objects within the environment, arrangement of the environment or visual boundaries, schedules, maps, labels, organization systems, timelines, and scripts. They are used across settings to support individuals with ASD. . (National Professional Development Center on Autism Spectrum Disorders)</p>	<p>Students with autism, significant disabilities, language delays</p>	<p>UPDC <u>Visual Strategies for Improving Communication and Solving Behavior Problems in Autism</u> by Linda Hodgdon Utah LRBI – Daily Structured Schedule www.autisminternetmodules.org</p>
<p>Positive Behavior Supports</p>			
<p>17. Antecedent-Based Interventions</p>	<p>Antecedent-based interventions (ABI) is an evidence-based practice used to address both interfering and on-task behaviors. This practice is most often used after a functional behavior assessment (FBA) has been conducted to identify the function of the interfering behavior. Most of the studies in the evidence base focused on determining the effectiveness of ABI procedures to reduce repetitive, stereotypical, self-</p>	<p>All students who display interfering behaviors</p>	<p>UPDC and USOE Staff <i>Antecedent Control</i> by James Luiselli and Michael Cameron <i>Antecedent Assessment and Intervention</i> by James</p>

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	<p>stimulatory, and self-injurious behaviors in learners with ASD. In one study, researchers also analyzed the effects of ABI strategies on engagement and on-task behavior. ABI are a collection of strategies in which environmental modifications are used to change the conditions in the setting that prompt a learner with ASD to engage in an interfering behavior. For example, many interfering behaviors continue to occur because the environmental conditions in a particular setting have become linked to the behavior over time. The goal of ABI is to identify factors that are reinforcing the interfering behavior and then modify the environment or activity so that the factor no longer elicits the interfering behavior. Common ABI procedures include 1) using highly preferred activities/items to increase interest level, 2) changing the schedule/routine, 3) implementing pre-activity interventions (e.g., providing a warning about the next activity, providing information about schedule changes), 4) offering choices, 5) altering the manner in which instruction is provided, and 6) enriching the environment so that learners with ASD have access to sensory stimuli that serve the same function as the interfering behavior (e.g., clay to play with during class, toys/objects that require motor manipulation). ABI strategies often are used in conjunction with other evidence-based practices such as functional communication training (FCT), extinction, and reinforcement. (From National Professional Development Center for Autism Spectrum Disorders (http://autismpdc.fpg.unc.edu/))</p>		Luiselli
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<p>21. Differential Reinforcement</p>	<p>Differential reinforcement involves using praise and/or other rewards for desired behaviors and appropriate communication, while ignoring inappropriate behaviors. Reinforcement can be provided: (a) when the learner is not engaging in the interfering behavior, (b) when the learner is engaging in a specific desired behavior other than the inappropriate behavior, or (c) when the learner is engaging in a behavior that is physically impossible to do while exhibiting the inappropriate behavior. (National Professional Development Center on Autism Spectrum Disorders)</p>	<p>Everyone</p>	<p>Utah LRBI www.autismnetwork.org/modules/behavior/dr/index.html Differential Reinforcement Checklist: http://www.usu.edu/teachall/text/behavior/LRBIpdfs/Differential.pdf DRL: Differential Reinforcement of Lower Rates of Behavior: http://www.behavioradvisor.com/DRL.html</p>
<p>22. Extinction (Withholding reinforcement)</p>	<p>Extinction is the removal of the positive reinforcer that maintains an interfering behavior. This withdrawal results in the stopping or extinction of behavior. The interfering behavior is likely to increase in frequency and intensity (extinction burst) before it is extinguished as learners try to elicit the reinforcers previously provided. Extinction is often used with differential reinforcement to increase appropriate behaviors and communication skills while discouraging the use of inappropriate behaviors. (National Professional Development Center on Autism Spectrum Disorders)</p>	<p>Everyone</p>	<p>Utah LRBI National Professional Development Center for Autism Spectrum Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm</p>
<p>23. Response Interruption/Redirection</p>	<p>Response interruption/redirection (RIR) is used to decrease interfering behaviors, predominantly those that are repetitive, stereotypical, and/or self-injurious. RIR is particularly useful with persistent interfering behaviors that occur in the absence of other people, in a</p>	<p>Everyone</p>	<p>Utah LRBI National Professional Development Center for Autism Spectrum</p>

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	<p>number of different settings, and during a variety of tasks. These behaviors often are not maintained by attention or escape. Instead, they are more likely maintained by sensory reinforcement and are often resistant to intervention attempts. RIR is particularly effective with sensory-maintained behaviors because teachers/practitioners interrupt learners from engaging in interfering behaviors and redirect them to more appropriate, alternative behaviors. RIR has also been shown to be effective in teaching desired academic skills/responses. (National Professional Development Center on Autism Spectrum Disorders)</p>		<p>Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm</p>
<p>24. Self-Management</p>	<p>Self-management interventions help learners with ASD learn to independently regulate their own behaviors and act appropriately in a variety of home, school, and community-based situations. With these interventions, learners with ASD are taught to discriminate between appropriate and inappropriate behaviors, accurately monitor and record their own behaviors, and reward themselves for behaving appropriately. As learners with ASD become more fluent with the self-management system, some of the implementation responsibilities shift from teachers, families, and other practitioners to the learners themselves. (National Professional Development Center on Autism Spectrum Disorders)</p>	<p>Everyone</p>	<p>UPDC Utah LRBI <u>How to Teach Self-Management to People with Severe Disabilities</u> by Robert and Lynn Koegel</p> <p>National Professional Development Center for Autism Spectrum Disorders http://www.fpg.unc.edu/~autismPDC/resources/resources_public_course.cfm</p>