

ACTIVITY-BASED INTERVENTION

CHARACTERISTICS OVERVIEW CHART

Verbal Skills	Grade Levels	Cognitive Level	Areas Addressed
<input checked="" type="checkbox"/> Nonverbal	<input checked="" type="checkbox"/> PK	<input checked="" type="checkbox"/> Classic	<input checked="" type="checkbox"/> (Pre)Academic/Cognitive/Academic
<input checked="" type="checkbox"/> Mixed	<input checked="" type="checkbox"/> Elementary	<input checked="" type="checkbox"/> High Functioning	<input checked="" type="checkbox"/> Adaptive Behavior/ Daily Living
<input checked="" type="checkbox"/> Verbal	<input type="checkbox"/> Middle/High		<input checked="" type="checkbox"/> Behavior <input checked="" type="checkbox"/> Communication/Speech <input checked="" type="checkbox"/> Social/Emotional

BRIEF INTRODUCTION

Activity-based intervention (ABI) provides a developmentally appropriate framework for incorporating several effective instructional strategies into a child’s daily activities. This approach is a promising way to utilize naturally occurring antecedents and consequences to teach children with autism target skills.

DESCRIPTION

ABI originated with Diane Bricker and her colleagues at the University of Oregon. It is defined as a “child-directed, transactional approach that embeds intervention on children’s individual goals and objectives in routine, planned, or child-initiated activities, and uses logically occurring antecedents and consequences to develop functional and generative skills” (Bricker & Cripe, 1992, p. 40).

Novick (1993) described ABI as a “combination of selected strategies found in early childhood and behavior analytic approaches and shares many theoretical and philosophical underpinnings with developmentally appropriate practice” (p. 405). It is considered a naturalistic teaching approach and is commonly described in terms of embedded instruction, routine-based intervention, or integrated therapy (Pretti-Frontczak, Barr, Macy, & Carter, 2003).

ABI evolved as part of a linked system that moves from assessment to goal development to intervention, through evaluation (Bricker & Cripe, 1992). A child-directed approach, it emphasizes following the child’s interest and actions. Four sequential key elements make up ABI: (a) the use of

routine, planned, or child initiated-activities; (b) the embedding of goals and objectives in routine, planned, or child-initiated activities; (c) the use of logical antecedents and consequences; and (d) the selection of target skills that are generative and functional.

Bricker, Pretti-Frontczak, and McComas (1998) suggested a five-step process of selecting appropriate skills for intervention:

- Administer comprehensive curriculum-based assessment/evaluation tools.
- Summarize the results of the assessment in terms of interests, strengths, and needs.
- Target skills that are (a) functional, (b) usable across settings with different people and materials, (c) observable and measurable, and (d) part of the child’s natural daily environment.
- Identify appropriate goals and objectives through prioritizing skills.
- Develop written goals and objectives that are observable, measurable, and clearly understandable to team members.

Two intervention criteria must be met in order for progress to occur: (a) goals and objectives must be addressed during developmentally appropriate activities, and (b) repeated opportunities for practicing targeted skills must be provided during these activities (Bricker et al., 1998).

STEPS

Prior to implementing ABI, the team must decide how and when the individualized family service plan (IFSP)/individualized education program (IEP) goals and objectives will be embedded in the child’s daily activities. This is achieved by developing a matrix for identifying the appropriate target skills by domain in a classroom setting. Please refer to the Comprehensive Autism Planning System (CAPS) for an example of a matrix.

BRIEF EXAMPLE

The team decided that using multi-word phrases to express his needs is the target skill that needs to be addressed for Mike. Mike’s teacher, Ms. Smith, uses ABI to help Mike practice the target skill. Every day, after arrival at the preschool, Mike has to tell Ms. Smith his choice of drink

for snack. At circle time, he has the opportunity to request his favorite song. After circle time, he must tell Ms. Smith his choice of centers for free play. At snack and lunch time, he has to request the cup and spoon from Ms. Smith.

SUMMARY

ABI is an instructional approach for young children with and without disabilities. It not only targets the growth of a child across developmental domains but also incorporates ongoing assessment and evaluation with strategies for effective instruction. Overall, ABI is a comprehensive approach to assessment, intervention, and evaluation, offering a developmentally appropriate framework that incorporates a number of effective instructional strategies into a child’s daily activities.

RESEARCH TABLE

Number of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome
19*	3-12	286	Language, teacher’s teaching skill, behavior, listening skills, picture/object naming skills, counting	+

*Note. This number of studies includes studies cited in an integrated review of literature by Pretti-Frontczak, Barr, Macy, & Carter (2003).

STUDIES CITED IN RESEARCH TABLE

1. Dada, S., Granlund, M., & Alant, E. (2007). A discussion of individual variability in activity-based interventions, using the niche concept. *Child Care Health and Development, 33*, 424-431.
Four children participated in a three-week long, activity-based, aided language stimulation program. Children’s language skills increased, but were variable.
2. McBride, B. J., & Schwartz, I. S. (2003). Effects of teaching early interventionists to use discrete trials during ongoing classroom activities. *Topics in Early Childhood Special Education, 23*, 5-17.
Three children (two with autism) and their teachers participated in this study, which evaluated the effects of a teacher-training package that included sequential components (activity-based intervention [ABI] and ABI with discrete trials instruction [DTI]) on the rate of instructional opportunities presented to young children with disabilities. All three children showed increased rates of correct responding to target instructional objects when DTI was embedded into naturalistic classroom activities.

3. Pretti-Frontczak, K., Barr, D., Macy, M., & Carter, A. (2003). Research and resources related to activity-based intervention, embedded learning opportunities, and routine-based instruction: An annotated bibliography. *Topic in Early Childhood Special Education, 23*, 29-39.
Sixteen studies investigating ABI published in peer-reviewed journals since 1993 were reviewed. The outcomes of these studies suggest that ABI is effective in targeting a wide variety of skills such as social skills, language, self-help skills, group instruction and transition skills, imitation, counting, play and academic engagement, and attending, listening, and behavior ratings.
4. Losardo, A., & Bricker, D. (1994). Activity-based intervention and direct instruction: A comparison study. *American Journal on Mental Retardation, 98*, 744-765.
An alternating-treatments design was used to compare the effectiveness of two intervention procedures – direct instruction and activity-based instruction – on the acquisition and generalization of object names by six preschool-age children with developmental delays or at risk for such delays. Results of the study suggest there may be no winners and no loser when comparing direct instruction and activity-based intervention.

REFERENCES

- Bricker, D., & Cripe, J. (1992). *An activity-based approach to early intervention*. Baltimore: Brookes.
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RESOURCES AND MATERIALS

- Autism Web Course: Activity-Based Intervention http://cdd.unm.edu/swan/autism_course/modules/behavior/abi/index.htm. This is a free internet module specifically developed about this intervention.
- McLannahan, L.E., & Krantz, P.J. (1999). *Activity schedules for children with autism: a guide for parents and professionals*. Bethesda, MD: Woodbine House. This guide shows parents and professionals how to make and use activity schedules---a set of pictures or words that cues a child to engage in a sequence of activities--to help children with autism become more independent.
- Noonan, M. J., & McCormick, L. (1993). *Early intervention in natural environments: Methods and procedures*. Belmont, CA: Brooks/Cole. The ABI intervention is thoroughly described in this text.

GENERAL RESOURCES

- Autism Internet Modules (AIM) www.autisminternetmodules.org. The Autism Internet Modules were developed with one aim in mind: to make comprehensive, up-to-date, and usable information on autism accessible and applicable to educators, other professionals, and families who support individuals with autism spectrum disorders (ASD). Written by experts from across the U.S., all online modules are free, and are designed to promote understanding of, respect for, and equality of persons with ASD.
- The Autism Web Course: http://cdd.unm.edu/swan/autism_course/about/index.htm. This web course was developed out of materials from the Interactive Collaborative Autism Network (ICAN). The Autism Programs at the University of New Mexico has updated and added information to this web course.
 - Characteristics
 - Assessment
 - Academic Interventions
 - Behavioral Interventions
 - Communication Interventions
 - Environmental Interventions
 - Social Interventions
 - Family Support Suggestions
- Indiana Resource Center for Autism (IRCA) <http://www.iidc.indiana.edu/irca/fmain1.html>. The Indiana Resource Center for Autism staff's efforts are focused on providing communities, organizations, agencies, and families with the knowledge and skills to support children and adults in typical early intervention, school, community, work, and home settings.
 - IRCA Articles: <http://www.iidc.indiana.edu/index.php?pageId=273>

- Texas Statewide Leadership for Autism www.txautism.net. The Texas Statewide Leadership for Autism in conjunction with the network of Texas Education Service center with a grant from the Texas Education Agency has developed a series of free online courses in autism. Please check the training page, www.txautism.net/training.html, for update lists of courses, course numbers and registration information. Current courses include the following:
 - Asperger Syndrome 101
 - Augmentative and Alternative Communication and the Autism Spectrum
 - Autism for the General Education Teacher
 - Autism 101: Top Ten Pieces to the Puzzle
 - Classroom Organization: The Power of Structure for Individuals with ASD
 - Communication: The Power of Communication for Individuals with ASD
 - Futures Planning for Students with Autism Spectrum Disorder
 - Navigating the Social Maze: Supports and Interventions for Individuals with ASD
 - Solving the Behavior Puzzle: Making Connections for Individuals with ASD