

Designing and Carrying Out Early Intervention for 0-4 Year Olds

Sally J. Rogers, Ph.D.

The M.I.N.D. Institute
University of California Davis Medical Center

Laura Schreibman, Ph.D.

UCSD Autism Intervention Program
University of California, San Diego

International Conference on Autism
Manila
February 3, 2010

History of Early Intervention for Children with Autism Spectrum Disorders

- Prior to 1960s there was no effective treatment for children with autism
- First treatments that demonstrated the children could learn were the initial behavioral interventions
- Ivar Lovaas (UCLA) provided first empirically validated, comprehensive intervention for children with autism
- This treatment model involved highly-structured Discrete Trial Training (DTT) based on operant discrimination learning
- Developed via the research methodology of applied behavior analysis

Discrete Trial Training

- Learning environment is highly structured
- Target behaviors are broken down into a series of discrete sub-skills and taught successively
- Teaching episodes are initiated by the therapist
- Teaching materials are selected by the therapist and are typically held consistent within a task
- The child's production of the target response may be explicitly prompted
- Reinforcers, albeit functional, may be indirect
- The child receives reinforcement only for correct responding or successive approximations

Results of Discrete Trial Training

- Proved to be very effective in establishing a wide range of language and other behaviors in these children
- Provided basis for all behavioral treatments to follow
- Can lead to substantial improvement in many children with autism
- Heterogeneity in outcome



Lovaas (1987)

- First major scientific study demonstrating the significant effects possible with early intervention
- Children under 41 months of age assigned to three groups:
 - Group 1 (n=19) - 40 hrs/week one-on-one DTT
 - Group 2 (n=19) - < 10 hrs/week one-on-one DTT
 - Group 3 (n=21) - no behavioral treatment
- Results after two years of treatment:
 - Group 1 - 47% achieved "normal" functioning
 - Group 2 - 43% achieved substantial improvement
 - Group 3 - outcome generally poor
- Follow-up at between 9 - 19 years old showed maintenance of IQ gains, adaptive behavior and personality functioning

Naturalistic Strategies

Developed in response to needed improvements

Arose from a number of different laboratories

Called "incidental teaching," "pivotal response training," "milieu treatment," etc.

All share many of the same components

Naturalistic Strategies

Learning environment is loosely structured and play based

Teaching occurs within ongoing interactions between child and adult (and in naturally-occurring situations and environments)

The child initiates the teaching episode by indicating interest in an item or activity

Teaching materials are selected by the child and varied often

Naturalistic Strategies

Child's production of target behavior is explicitly prompted

A direct relationship exists between the child's response and the reinforcer (reward)

The child's response *attempts* are reinforced, not only correct responses or successive approximations.



Results of Naturalistic Teaching Strategies

Greater generalization and spontaneity

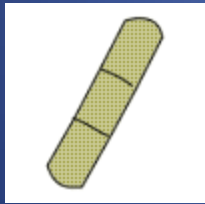
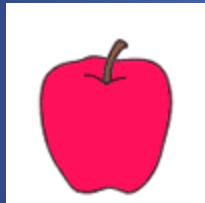
More positive affect of child and therapist

Reduced escape/avoidance motivated behavior

More positive home interactions

Parents report more easily integrated in everyday activities

Picture Exchange Communication System



Picture Exchange Communication System (PECS)

Naturalistic and involves social interaction

Use of pictures symbols to communicate

Bridge to language

Reduce prompt dependence

Increase independence

Does not require receptive language

Readily acquired by most students

Can be expanded to more complex linguistic components

Parent Training

• Why train parents?



- Research has well established parents can learn to be excellent therapists for their children
- Training parents enhances maintenance and generalization of child's acquired skills
- Parents can be an active participant in their child's development
- Training parents makes treatment more available
- Parental stress may be reduced because of ability to teach child and deal with challenging behaviors

Parent Training



- What to teach parents:
 - How to conduct specific treatment strategies
 - How to integrate treatment strategies into everyday and community settings
 - How to effectively deal with challenging behaviors
 - How to effectively access services for their child
 - How to access services support services for themselves and the family
 - How to make time for themselves