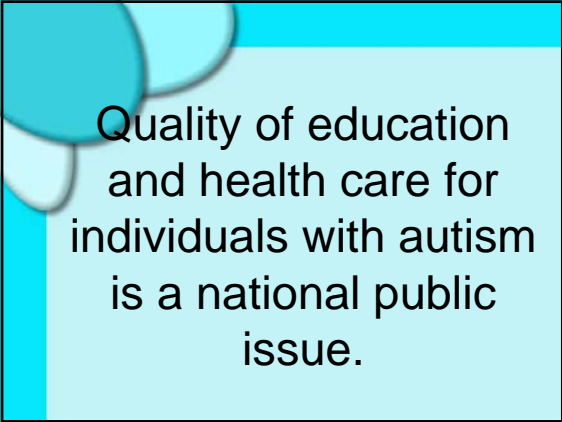


**Courage to Teach Children with
Autism Spectrum Disorders:
Theories to Practices**

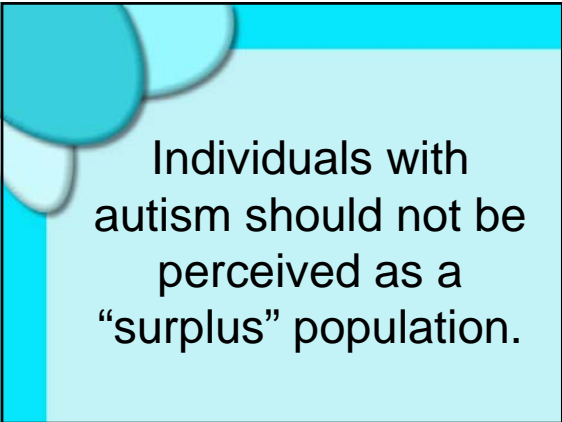
*Allen & Lily Huang
April 25-26, 2008
president.@urwest.edu /wlch_99@yahoo.com*

**The Nature of
Autism Spectrum
Disorders**

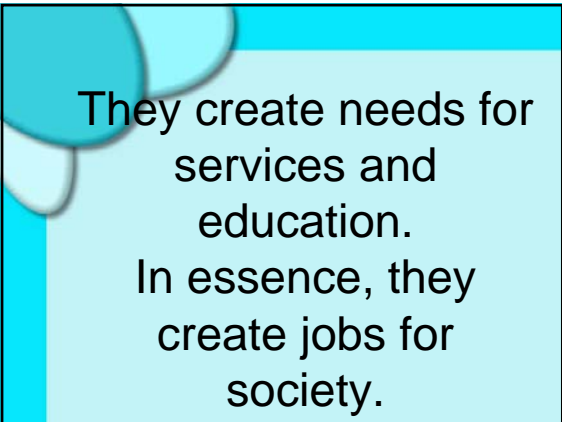
Every citizen,
including individuals
with autism, has a
right to education and
health care.



Quality of education
and health care for
individuals with autism
is a national public
issue.



Individuals with
autism should not be
perceived as a
“surplus” population.



They create needs for
services and
education.
In essence, they
create jobs for
society.

Can we afford not to educate or serve individuals with autism?

What is autism?

Autism is a brain based syndrome that can only be explained primarily in behavior terms at present time.

A Child in the Shell



Describe Children with Autism Spectrum Disorders

- Autism Spectrum Disorders (ASDs) or Pervasive Developmental Disorders (PDDs) include:
 - * Autistic Disorder
 - * Asperger's Disorder
 - * Rett's Disorder (gene-MECP2)
 - * Childhood Disintegrative Disorder (CDD)
 - * *Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS)*

Definition of Autistic Disorder

- Definition by DSM-IV-TR ([D](#)iagnostic and [S](#)tatistical [M](#)anual of Mental Disorders, 2000)
 - **Autism is a behaviorally defined syndrome and must manifest itself through delays or abnormal functioning in the following three areas:
 1. impairment in social interaction
 2. impairment in communication, speech, or language
 3. restricted repetitive & stereotyped patterns of behavior, interests, & activities
 - ** *Delays or abnormal functioning at least one of three areas in social interaction, social communication, and symbolic play prior to the age of 3 years.*

Definition of Asperger's Disorder

Definition by DSM-IV-TR

- No significant delay in cognitive development or age-appropriate self-help skills, adaptive behavior and curiosity about the environment in childhood
- No significant general delay in language
- Impairment in social interaction such as nonverbal communication, share enjoyment, interest, peer relationship
- Restricted repetitive and stereotyped patterns of behaviors, interests, and activities
- *The disturbance causes impairment in social, occupational, or other important areas of functioning*

Other associated features

- Profile of cognitive skills is uneven or splintered (Kim Peek, Newton, Einstein, Mozart, Beethoven, Jefferson)
- Responses to sensory information that are unusual which affects learning greatly
- Difficulties in abstract thinking involving awareness, judgment, and generalization
- *Uneven developmental patterns in the acquisition of motor, sensory, social play, or learning skills*

Overview of the Characteristics of Children with ASD

- Atypical behaviors of children with ASD
- Different learning styles in children with ASD
- Strengths
- Concerns

Atypical Behaviors of Children with ASD

- 🌐 Lack of eye contact
- 🌐 Do not like to be touched
- 🌐 Echolalia
- 🌐 Play alone
- 🌐 Lack of facial expression
- 🌐 Delay or absence in the development of spoken language and communication
- 🌐 Do not initiate or maintain a conversation with others

Atypical Behaviors of Children with ASD Continued

- ▶ Repetitive use of language
- ▶ Lack of symbolic play or make-believe play
- ▶ Inflexible in daily routine
- ▶ Repetitive motor movements
- ▶ Difficulty in expressing thoughts, wants, or needs
- ▶ Self-injury behavior
- ▶ Sensory response are unexpected

Atypical Behaviors of Children with ASD Continued

- ✓ Particular order of events, objects, and play
- ✓ Seizure
- ✓ Hyperactivity
- ✓ Aggressive behavior
- ✓ Difficulty in transition period
- ✓ *Difficulty in abstract thinking*

Different Learning Styles in Children with ASD

- ❖ Demonstrate central deficits with information processing rooted in deficient coding and categorization abilities
- ❖ Tend to prefer static rather than transient visual stimuli
- ❖ *Exhibit stimulus over selectivity*

(Schuler, 1995)

Strengths

- Concrete associations
- Rote memorization
- *Visual processing*



Weaknesses

- Theory of mind
- Poor imitation ability
- Social use of language
- Auditory processing
- Difficulty with abstract concepts
- *Executive function*



Theory of Mind

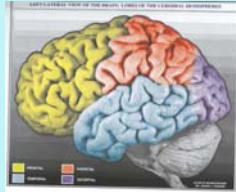
- Intersubjectivity:
 - Awareness that people have thoughts, feelings, and desires
 - Deliberate sharing of experiences with others
- Babies and toddlers exhibit intersubjectivity by
 - Sharing intentions
 - Sharing attention (joint attention)
 - Sharing emotion
 - *Reading other's emotions*

(Roger, 1999)

Executive Function

Inability in:

- Planning
- Decision-making
- Coordinating
- Controlling of sequence of action due to frontal lobe injury or under-development



Etiology

- Autism is a neurobiological disorder with a strong genetic component (1,11,15, 17, 22) (JAMA, 2007)
- Brain overgrowth in the first year of life (JAMA, 2003)
- Vaccination concerns
- Environmental toxins: pesticides, polychlorinated biphenyls (pcbs)
- Allergy problems
- Viral exposure
- Related to father's age (before 29: 5/10,000 after 40: 32/10,000)
- *The cause of autism actually is unknown, therefore, the syndrome must be defined on the basis of observed behaviors.*

Prevalence

- 4 to 5 times per 10,000 births (Lotter, 1966)
- 15 to 20 out of 10,000 (Autism Society of America, Inc., 1995)
- 67 per 10,000 individuals being identified as having autism related disorders (Ehlers & Gillberg, 1993; Simpson & Myles, 2000)
- 1 in 166 births (Center for Disease Control Prevention, 2004)
- 1 in 150 (Center for Disease Control Prevention, 2007, ADDM, 2007)
- There are 3 to 5 times more boys than girls (Talay-Ongan, 1998)

Prevalence

continued

- An estimated 50% of the population do not develop communicative speech (Prizant, 1996)
- Approximately 35-45% of this group have a seizure disorder. Half of them begin to have seizures in puberty (Hapes & Frith, 1996)
- 70-75% of individuals with autism also have mental retardation (Huerbner, 2001)

Prevalence

Continued

- Autism is equally distributed among all social classes, racial groups, and nationalities (Whaley & Shaw, 1999)
- Autistic disorder may be also present with other disorders, such as ADHD, Fragile-X Syndrome, LD (Volkmar & Lord 1998)
- *Most commonly, visual skills are stronger than language/communication skills and daily living skills are better than social interaction skills* (Carter, Gillham, Sparrow, & Volkmar, 1996)

IQ:

Severe retardation ----- gifted

Social Interaction:

Aloof ----- passive ----- active but odd

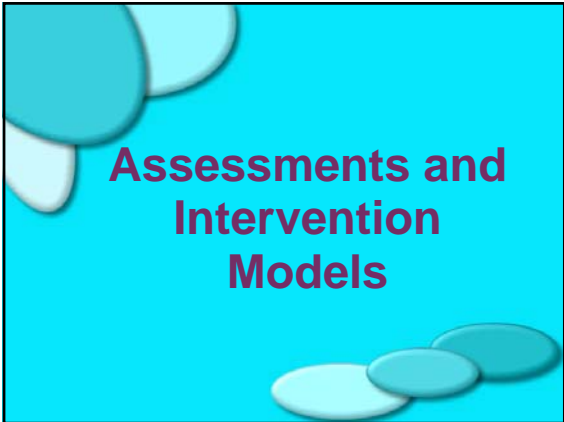
Communication:

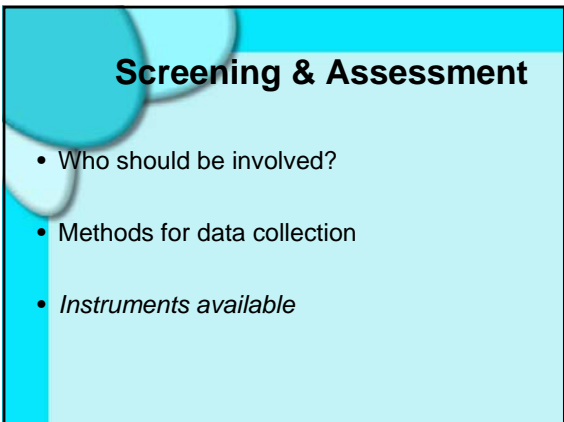
Non-verbal ----- verbal

Sensory:

Hyposensitive ----- Hypersensitive







Methods for Data Collection

Observation

- Accuracy
- Objectivity

Interview / Survey

Record reviewing

Test



Instruments Available (1)

CHAT: Checklist for Autism in Toddlers

- Standardized rating scales and screening checklist
- Simple and easy to give
- 85% accuracy in identifying autism
- Weaknesses:
 - All developmental delayed children will be identified
 - *It does not identify high functional children with autism such as Asperger's Syndrome*

Instruments Available (2)

CARS: Childhood Autism Rating Scale

- Standardized rating scales and checklist
- Interaction with child
- Parent interview
- *Background/history information*

Instruments Available (3)

ADI-R: Autism Diagnostic Interview-Revised

- Developmental history
 - semi-structured interview format with open-ended questions and prompts to elicit specific information regarding family history, medical history, developmental rates/sequences, communication, social functioning, and responses to sensory stimuli
- Parent interview
- *It takes a long time to administer ADI-R*

Instruments Available (4)

ADOS-G: Autism Diagnostic Observation Schedule-Generic

- Semi-structured observational procedure
- Fun to give
- *Rating system is objective*

Instruments Available (5)

PEP-R: Psychoeducational Profile-Revised

- Pre-academic skills assessment
- *Assessment helpful to determine skill levels for treatment recommendations*

Attention !!!

All the instruments mentioned previously are designed to provide only one piece of information. They should be used in conjunction with a variety of other assessment tools in the different areas to develop an effective program for the student. *It would be inappropriate to use a single score to diagnose autism or determine eligibility.*

Overview of Intervention models (1)

TEACCH: **T**reatment and **E**ducation of **A**utistic and **R**elated **C**ommunication **H**andicapped **C**hildren

- Structured teaching and learn the concepts of “beginning and ending” of the work
- Design physical environment
- Focus on visual learning using picture schedules
- Independent work system
- *Develop program based on student’s strengths, interest, and needs*

(www.teacch.com)

Overview of Intervention models (2)

Young Autism Program (Lovaas model)

- One-to-one instruction for at least six months
- Use discrete trials to learn imitation in a highly structured environment
- Use “reward” system
- Intensive training – 40 hours per week
- Work with family closely
- *Applied Behavior Analysis (ABA) method*

(www.lovaas.com)



Overview of Intervention models (3)
PECS (Picture Exchange Communication System)

- Use powerful reinforcers (activity)
- Communication initiated by the student to get his/her desired item using a picture system
- *Communication training include phases*

(www.pecs.com)

Overview of Intervention models (4)
Developmental Individual Based Model

- Follow the child's lead
- Cause and effect learning
- *Teach child some basic skills such as motor-sensory and spatial-play experiences such as running, jumping, hiding things, using verbal and visual cues*

(www.stanleygreenspan.com)

Overview of Intervention models (5)

Denver model: Eclectic approach

- Family-based approach
- Intensive individual teaching under highly structured conditions
- Emphasis on social interactions/relationships
- Emphasis on child initiation, choice, and independence
- Developmentally appropriate treatment plans
- *Interaction with typical peers*

Promote Communication Skills & Social Interactions to Eliminate Behavior problems

What is Communication?

Communication is a social process

What is Communication?

- Verbal:
 - Speech is a major way of communication. Speech is the sounds of language to communicate verbally.
 - Language system: Individuals use the same symbol to communicate to each other.
- Non-verbal:
 - Gesture
 - Body language
 - Printed words
 - Pictures
 - Sign Language
 - Eye gaze
 - *Facial expression*

Communication activity in the social context

- ✓ What is your name?
- ✓ What is your favorite color? And why?
- ✓ What novel have you read recently?
- ✓ Have you seen the movie "Harry Potter"? How do you like it?
- ✓ *What are your leisure activities during the weekend?*

Elements of Social Communication

- Occurs between two or more people (bi-directional or multi-directional)
- Takes turns
- Same interest or topic
- Communication in social context
- Exchanges thoughts, ideas, feelings, etc.
- *Establish relationships*

Various communication training programs

- Speech training
- Sign language
- Picture system
 - Picture pointing program
 - Augmentative device
 - *PECS: The Picture Exchange Communication System*

Phase I: How to communicate

- Choosing powerful reinforce (begin with 5-8 items)
- No verbal prompts are used during this phase
- Two trainers are necessary
- Pick up-reach-release
- Request is taught and communication starts

Phase II: Distance & Spontaneity

- Use different trainers
- Start to use communication board
- Increase distance between trainer and student
- Increase distance between student and picture
- Allow student play for 10-15 seconds

Phase III: Picture Discrimination

- Begin with 2 items
- Preferred item vs. non-preferred item
- Change positions of pictures on the communication board to make sure discrimination is mastered
- Correspondence checks
- Use a variety of pictures, items such as size, color, three-dimensional objects etc.

Phase IV: Sentence Structure

- Introduce “I want” to request item
- Place “I want” on sentence strip
- Then add the specific picture e.g. juice, candy etc. on the sentence strip
- Remove the sentence strip and give it to the trainer to request

Phase V: Responding to the question “What do you want?”

- Place “I want” + item picture on the sentence strip.
- Give it to the trainer
- The trainer reads the sentence strip and give item to the student **but not demand speech**

Phase VI: Commenting

- Introduce “ I see”, “I hear”. “I have” etc.
- Answer those questions
- Discriminate between requesting and commenting
- Expanding the vocabulary, color/size concepts, yes/no questions etc.

Promoting Appropriate Social Interactions

- Increase the awareness of the impact of one person's behavior on others
- Modeling
- Role play/imitation
- Practice in real situations
- Facilitate buddy system to foster friendship
- Teach “feelings” to learn different level of emotions
- Teach alternative responses to deal with difficult situations
- *Teach about personal space*
- Social stories to aware the social rules

A Social Story about Talking in the Third Grade

I like third grade. We learn cool things. We read good stories. At morning meeting , we get to talk about things we like. Everyone tries to be quiet in third grade. They listen quietly to the teacher when she is reading a story or giving directions. If a third grader wants to talk , he remembers to raise his hand. When the teacher calls his name, then he can talk in an inside voice. An inside voice is not too loud and not too soft.....

(Baker & Weikowitz, 2005 P.128)

Design Prosocial Skills Activities

- Greeting people and initiate a conversation
- A friend lets you play his special toy
- A friend has trouble to start the computer
- You want to ride a friend's bicycle
- You want to join a group game with peers
- Your friend wants you to roller skate with him, but you think it's too hard
- Child will use turn taking in a group activity
- *Child will use eye contact in communication*

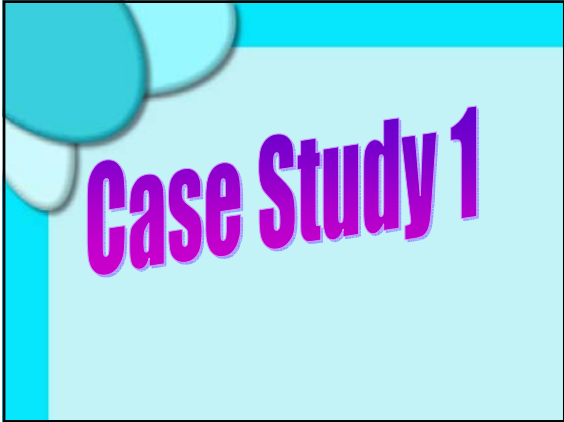
Tips for Effective Intervention

- Sound IEPs = potential + needs + interest
- Organizing learning environment to motivate student's learning
- Teach the answer before you ask a question
- Make choices
- Errorless teaching
- Start with One-to-one teaching, then apply to small group
- School/family partnership
- Available staff such as teachers, peer helpers, volunteers
- Modifying the curriculum in the regular classroom
- Interaction with typical peers
- Make a visual schedule
- Command vs. request
- Use "stop watch" for the difficult transition time
- Simplify words, short and clear instructions
- *Give students some time to answer questions*

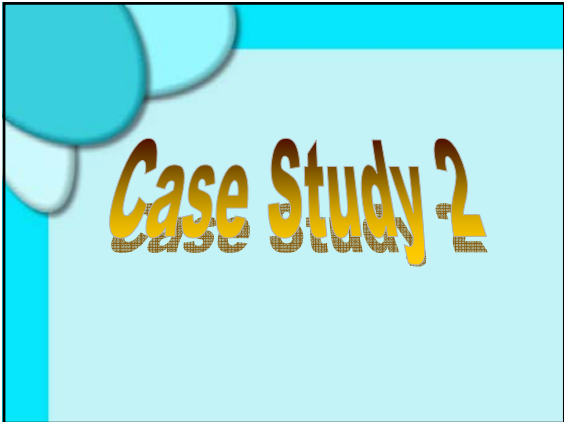
Case Studies & Successful Stories

Evidence-based Data

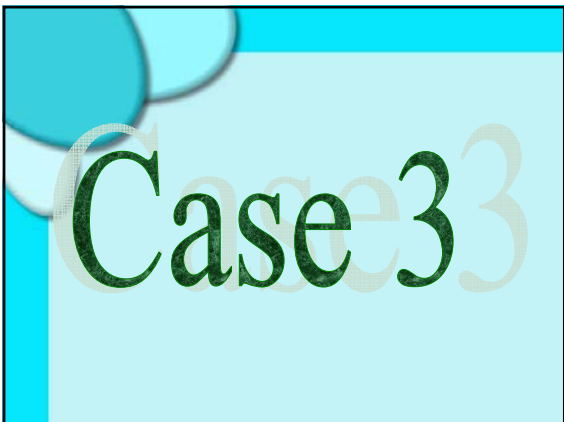
Collaboration Between
Family and School

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Case Study 1

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Case Study 2

A rectangular box with a light blue background and a darker blue border. In the top-left corner, there are stylized cloud shapes in shades of blue. The text "Case 3" is written in a bold, dark green, serif font, slanted slightly to the right.

Case 3



**Thank you for your
participation and
support of children
with autism**

Allen & Lily Huang
