



AAC

PRAXIS REVIEW COURSE

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NATIONAL BLACK ASSOCIATION FOR
SPEECH-LANGUAGE AND HEARING

Presenter

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AAC: DEFINITION AND OVERVIEW

- Augmentative and alternative communication (AAC) is a clinical practice that promotes the communication needs of people who experience severe and/or complex communication disorders, characterized by impaired expressive and/or receptive communication. Complex impairment in language expression and comprehension most often includes spoken and/or written forms of communication.



AAC: DEFINITION AND OVERVIEW

- Augmentative and alternative forms of communication utilize a variety of techniques, strategies and tools ranging from gestures, finger spelling, and sign language (unaided) to the use of pictures, talking switches, and high tech speech generating devices (SGD) (aided).



AAC: DEFINITION AND OVERVIEW

- It is important to recognize that an effective AAC system must support every aspect of communication across the life span, promoting the communicator's best life in facilitating growth and development, building relationships, expressing feelings, engaging in advocacy initiatives, and managing ones day-to-day life.



AAC: DEFINITION AND OVERVIEW

- Whether AAC serves to augment (e.g. supplement) or replace communication by providing an alternative form, it must be functional in promoting the communicator's short-term/temporary or long-term/permanent needs.



COMMUNICATION IS THE ESSENCE OF HUMAN LIFE

- While the need for AAC/AT may vary, ranging from alternative methods of speech output to supportive writing tools, there are common congenital and acquired conditions that benefit from the use of AAC. These include intellectual disability, cerebral palsy, autism, developmental apraxia, and traumatic brain injury.

(Bridges-Bond and Gillespie, 2010)



WHAT IS AAC AND WHO CAN BENEFIT FROM ITS USE?

- AAC users typically fall into two broad categories; those with **congenital disabilities** and those with **acquired disabilities**.

- https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773§ion=Key_Issues#AAC_Populations



WHO CAN BENEFIT FROM AAC?

Congenital Conditions

- Cerebral Palsy
- Developmental Disabilities
- Deaf/Blindness
- Autism Spectrum Disorder
- Developmental Apraxia
- Genetic Disorders

Acquired Disabilities

- Closed Head Injury
- Cerebral Vascular Accident (chronic aphasia, progressive dysarthria, etc.)
- Spinal Cord Injury
- Laryngectomy
- Asphyxia
- Head and Neck Cancer



WHO CAN BENEFIT FROM AAC?

Progressive Neurological Diseases

- Amyotrophic lateral (ALS)
- Multiple Sclerosis (MS)
- Muscular Dystrophy
- Parkinson's Disease
- Huntington's Chorea

Temporary Conditions

- Shock/Trauma/Surgery (intubation, tracheotomy, severe laryngitis, conditions requiring vocal rest)
- Guillian-Barre' Syndrome
- Reyes Syndrome



WHO CAN BENEFIT FROM AAC?

- An estimated 4 million people in the United States or 1.3% of the American population experience complex communication needs. Worldwide, prevalence rates increase with age. An estimated .2% - .6% of the total school-age population is reported to evidence severe speech impairment while prevalence of severe speech impairment in individuals 85 years of age and older is at a rate of 4.2% (Beukelman & Mirenda, 2013; Blackstone, 1990; Hirdes, Ellis-Hale, & Pearson Hirdes, 1993).



PRAXIS QUESTION

CANDIDACY

Augmentative communication systems are most likely to be of significant assistance to which of the following?

- A Persons with elective mutism
- B Children with phonological process disorder
- C Persons with global aphasia
- D Persons with neurological disorders that diminish oral motor functioning.
- E Persons who experience normal nonfluencies



THE ULTIMATE GOAL OF AAC INTERVENTION IS..

NOT to find a technological solution to
communication problems ...

BUT to enable individuals who can not speak well
enough to efficiently and effectively meet their
daily needs, to engage in a variety of interactions
and participate in activities of their choice; meeting
their cultural, social, care, and medical needs.



“THE CENTRAL GOAL OF AAC IS TO PROVIDE INDIVIDUALS WITH THE OPPORTUNITY AND CAPABILITY TO:

- Communicate messages so that they can interact in conversations.
- Participate in home, in school, at work and during recreational activities.
- Learn their native language.
- Establish and maintain their social roles (friend, student, husband/wife, employee, mom/dad, etc.).
- Meet their personal needs.
- Communicate accurately – guiding their personal and medical care

(Beukelman and Mirenda, 2005, p 15.)



Components of an AAC System



UNAIDED FORMS OF AAC

- Unaided forms of AAC are not external to the body, and do not utilize tools or an instrument. Because they involve the use of the body as in sign language, gestures, verbalizations, etc. unaided symbols typically require volitional movement.



AIDED FORMS OF AAC

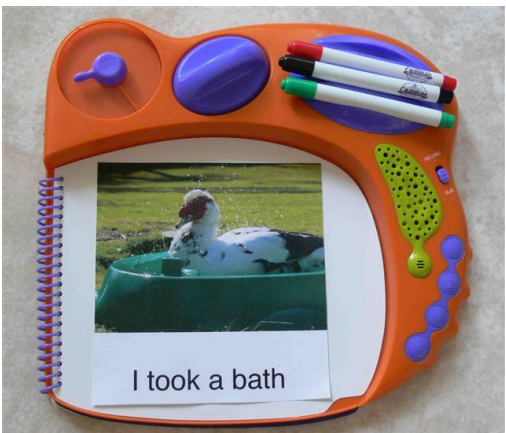
Aided refers to a form of AAC that utilizes external support that supplements oral and/or written communication. Aids may be low/moderate tech, or high tech (electronic, speech generating device (SGD)).



AIDED



○ <http://www.prentrom.com/eco>



FORMS OF AAC COMMUNICATION

Unaided

- Gestures
- Finger spelling
- Sign Language (ASL)
- Facial expression
- Cued Speech

Aided

No tech

Photos, pictures, objects

Low –Moderate Tech

Talking switches

High Tech

Speech Generating Devices (SGD) (static/dynamic)

- Mobile Technology
- Dedicated Devices



SYMBOLS

Symbols are used to represent the individual's communication intent and can take the form of objects, single meaning pictures, alphabet-based methods, semantic compaction, etc.



SYMBOLS

Symbols can be classified by their relative **iconicity**, or the degree to which they visually resemble that to which they refer. Conversely, **opaqueness** describes the lack of resemblance between symbols and what they represent. Along a continuum, symbols can range from **transparent** (easily guessable), **translucent** (guessable by associations and guidance) to **opaque** (not guessable even with knowledge of symbol).



SYMBOL DISPLAY

Symbol displays are referred to as ***static*** when they are *fixed, do not require movement or change* to convey meaning (e.g. communication book). ***Dynamic*** symbol displays do involve movement (e.g. electronically changes symbols, displays, etc. when activated). ***Hybrid*** displays incorporate both static and dynamic features.



SELECTION TECHNIQUES

Access can be complicated for individuals with complex communication needs, often restricted by sensory, motor and/or cognitive impairments.

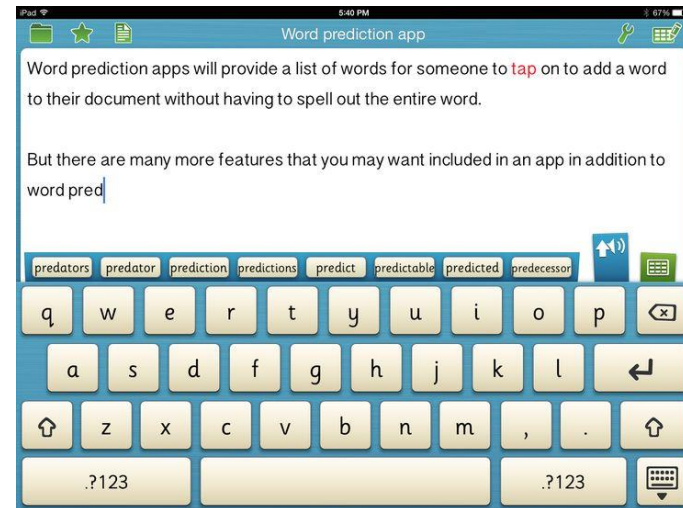
Two Primary Selection Techniques

- **Direct selection**—The more efficient of the two selection techniques, where the communication symbol/message is selected directly from an array of symbols. Selection may be achieved by reaching toward, pointing, eye gaze, trackball, joystick, or head mouse.
- **Indirect Selection** – The communication symbol/message is relayed by scanning through auditory, tactile or visual means often involving a switch or technological device.



STRATEGY

- “AAC use can be enhanced by the use of different ***strategies*** involving a process or plan of action which serves to improve the efficacy or efficiency of communication (e.g., accelerate). Examples of strategies include topic setting, spell check, and word prediction.



PRAXIS QUESTION TECHNIQUE

Non-vocal, severely physically handicapped individuals usually require some type of augmentative device in order to communicate effectively. In selecting an appropriate augmentative device, the SLP should first attempt to determine whether such an individual is capable of using which of the following techniques?

- A Pantomime
- B Scanning
- C Expansion
- D Imitation
- E Modeling



SERVICE DELIVERY

- SLPs are responsible for “*establishing AAC techniques and strategies including developing, selecting, and prescribing systems and devices*”

- [https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773§ion=Key_Issues#AAC Populations](https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942773§ion=Key_Issues#AAC_Populations)



ROLES AND RESPONSIBILITIES INCLUDE

- Screen those who may benefit from AAC
- Assess and refer for other appropriate services
- Collaborate with professionals, family members, and others throughout service delivery
- Engage in culturally/linguistically appropriate services
- Establish intervention, monitor, and document progress
- Coordinate goals and intervention in collaboration with rehab/interdisciplinary team
- Council, train, and support AAC user, family, and others



ASSESSMENT



INTERNATIONAL CLASSIFICATION OF FUNCTIONING DISABILITY AND HEALTH (ICF)

A comprehensive assessment in alignment with the World Health Organization (WHO) must address the following:

- Evidence of both strengths and weaknesses in communication ability
- Co-morbid deficits
- Degree of participation across relevant contexts
- Facilitation and barriers of life participation
- Quality of life in comparison to premorbid status

(ASHA, n.d.)



COMPREHENSIVE ASSESSMENT

- Case History
- Ecological Inventory
- Self Report
- Sensory/Motor Status
- Hearing
- Speech Assessment
- Oral Communication (speech)
- Written Language
- Social Communication
- Cognitive Abilities
- Symbol Assessment
- Feature Matching
- Communication assets and barriers

(ASHA, n.d.)



THE PARTICIPATION MODEL (BEUKELMAN AND MIRENDA, 2005, 2013)

- Beukelman, D., & Mirenda, P. (2013). *Augmentative and alternative communication: Supporting children and adults with complex communication needs (4th Edition)*. Baltimore, MD. Paul H. Brookes Publishing, Co.



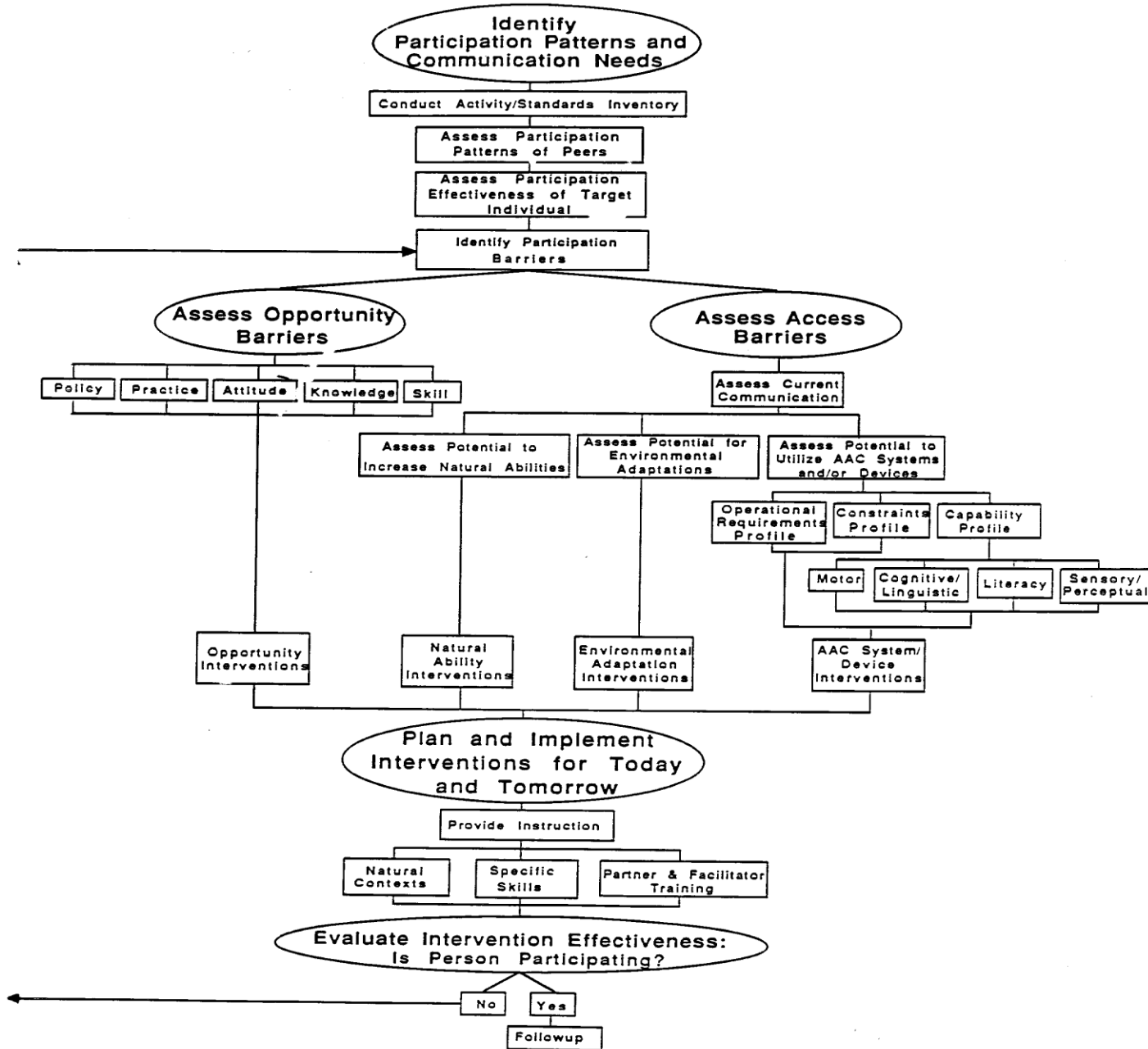


Figure 7.1. The Participation Model.

INFORMAL AAC ASSESSMENT

- Attention – tracking, competing tasks, observation
- Auditory comprehension – response to questions, follows directions.
- Receptive vocabulary – ID objects, photos, pictures, etc.
- Memory – recall of time, place, person
- Sequencing – sequencing routine activities, 2-3 word messages.
- Reading – matching words and pictures
- Spelling – identifying and matching letters
- Pragmatics – initiate, sustain conversation, gestures, etc.
- Speech – intelligibility, stimulability



ASSESSMENTS

- *MacArthur-Bates Communicative Development Inventories* (Fenson et al., 2006)
- *Social Partner and Language Partner Stages-Symbol Use (SCERTS)* (Prizant, et al, 2006)
- *The Communication Matrix* (Rowland, 2016)
- *Social Network Communication Inventory* (Blackstone & Hunt Bergs, 2012)
- *The Test of Communication Symbol Performance (TASP)*, (Bruno, 2010)



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PRAXIS QUESTION ASSESSMENT

Which of the following is the most important test characteristic to consider when choosing a test of language ability for a 3 year-old child who is reported to be “nonverbal”?

- A Availability of normative data
- B A balance between verbal and nonverbal items
- C Level of linguistic difficulty
- D Appropriateness of response modality
- E Ease of test administration



INTERVENTION

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Review



COMMUNICATIVE COMPETENCE

Communicative competence is the capacity to freely express one's feeling, ideas and thoughts to a variety of individuals across multiple contexts. These competencies often reflect goals targeted in AAC intervention.



COMMUNICATION COMPETENCIES

- Linguistics Competence - effective linguistic skills for oral and/or written communication
- Operational Competence - technical skills required for operating an AAC system.
- Strategic Competence – use of effective and efficient methods for communicating messages.
- Social Competence – effective use of pragmatic skills
- Psychosocial – emotional fortitude embodied by motivation, attitude, confidence and resilience
- (Light & McNaughton, 2014)



INTERVENTION

Maximizing the efficacy and effectiveness of functional communication through the use of AAC supporting the needs of individuals with complex communication needs.

- Utilizing multiple modalities
- Collaborating with families and other professionals
- Training communication partners



INTERVENTION

- Behavioral Intervention
- Incidental teaching
- Language Acquisition Through Motor Planning (LAMP)
- Picture Exchange Communication System (PECS)
- Pragmatic Organization Dynamic Display (PODD)
- Total Communication
- Video-based Instruction
- Visual Schedules



PRAXIS QUESTION INTERVENTION (CON'T)



A 5-year-old boy with cerebral palsy exhibits multiple articulation errors characterized by slow and labored speech, general slurring, and some problems with saliva control. The vowels and plosives are generally recognizable: the sibilants and fricatives are inconsistent, sometimes intelligible, sometimes distorted, and sometimes omitted. The boy's parents want their son's speech to improve. The speech-language pathologist can most appropriately suggest which of the following treatment strategies?



PRAXIS QUESTION

INTERVENTION

- A Intensive drill on isolated fricatives, emphasizing the accuracy of articulatory movements, and monitoring for generalization to new words.
- B Extensive ear-training exercised with emphasis on the child's ability to judge the accuracy of his own productions and the development of a self-monitoring system.
- C Development of a parent-training program with exercise routines to be implemented in the home setting, with the parents providing regular practice on targeted sounds
- D Multifaceted approach combining a synthesized speech system, an analysis of communicatively important targeted word and practice producing the nearly intelligible words.
- E Extensive practice on swallowing, with work on articulation deferred until saliva control is consistently maintained.



DOCUMENTATION OF PROGRESS

Use of evidence-based practices to evaluate functional outcomes of AAC, particularly those revealing evidence of increased participation and enhanced quality of life. Such measures should be useful to, and valued by, the individual who uses AAC and/or significant others in his/her daily life.



DOCUMENTATION OF PROGRESS

- Evaluation of the effectiveness and usefulness of current AAC systems, including strengths and limitations of different dedicated and non-dedicated AAC devices and systems.



PRAXIS QUESTION

DOCUMENTATION OF PROGRESS

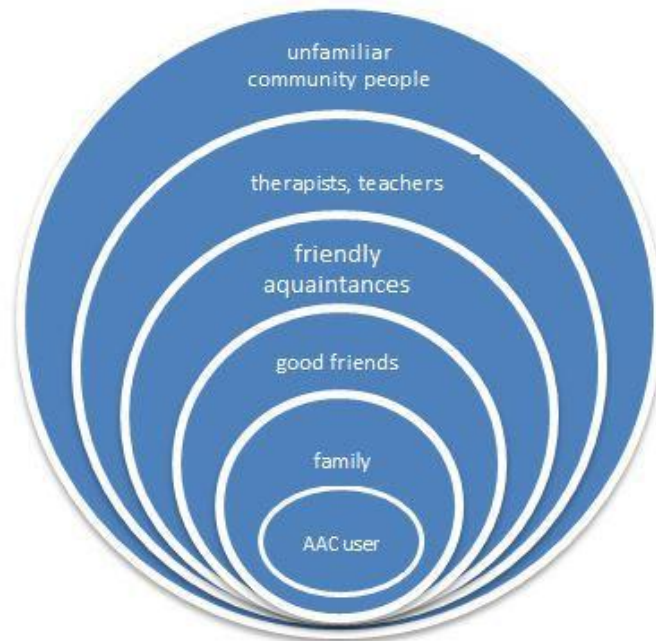
Established standards for record keeping require all hospital-based SLP programs to include which of the following in each client's file?

- A Results of all past tests of the client's linguistic competence
- B A statement regarding periodic review of progress
- C The name of the insurance company responsible for payment of professional fees
- D A family medical history and a record of medications prescribed or used regularly
- E A signed consent form indicating that the client will not sue for lack of progress.



COLLABORATION AND COORDINATION OF SERVICE

- Collaborate with individuals who use AAC for in-service training for medical and allied health professionals, educators, and family members, about ways in which AAC may enhance its users' quality of life.



INTERPROFESSIONAL PRACTICE (IPP) AND EDUCATION (IPE)

- ASHA cites the World Health Organization's (WHO, 2010) definitions of IPE and IPP in educational and health care settings.
- “IPE occurs when two or more professions learn about, from, and with each other to enable effective collaboration and health or education outcomes.”
- “IPP occurs when multiple service providers from different professional backgrounds provide comprehensive health or education services by working with individuals, their families, caregivers, and communities to deliver the highest quality of care across settings”
- <https://www.asha.org/Practice/Interprofessional-Education-Practice/>



Table 13-2. Interdisciplinary evaluation team in the adult rehabilitation setting.

Core AAC Team Members

• **Speech-Language Pathologist**

Reading Comprehension	Oral Motor/Speech	Environmental AAC Needs
Auditory Comprehension	Expressive Language	Vocabulary Selection
Social Skills	Sequencing	Device Recommendations
Problem Solving	Memory	Encoding System
		Device Training

• **Occupational Therapist**

Fine Motor Abilities	Hand Functioning	Switch Access
Muscle Tone	Visual Motor Skills	AAC Selection Technique
Positioning	Visual Perceptual Skills	Environmental Accommodations
Coordination		Equipment Adaptations

• **Rehabilitation Engineer**

Equipment Design	Equipment Adaptations	Equipment Integration
Mounting Equipment	Equipment Fabrication	

Supportive AAC Team Members

• **Physical Therapy**

Lower Extremity	Range of Motion	Seating
Gait Training	Balance	Positioning
Muscle Tone		

• **Physiatrist**

Diagnosis of Medical Status	Recommend Equipment Needs
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• **Nurse**

Ongoing Medical Care	Communication Needs	AAC Implementation
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• **Social Worker**

Client and Family Liason	Funding Liason	Client and Family Counseling
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• **Vocational Rehabilitation Counselor**

Vocational Counseling	Work Site Evaluation	Work Site Accommodations
Employer Counseling	Employer Education	Job Training

• **Neuropsychologist**

Neuropsychologic Assessment	Client and Family Counseling
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COLLABORATION

In formulating treatment recommendations for an elementary school child with a language learning disability, it is most important to include input from

- A peer-group members
- B family medical providers
- C classroom teachers
- D other SLPs
- E vision specialists



FUNCTIONAL GOALS AND FAMILY PARTICIPATION

A client with aphasia spends almost all of his time with a family member who rarely speaks and whose life revolves around watching television. The SLP should begin intervention by emphasizing which of the following?

- A Articulation skills in single-word utterances
- B Verbal interaction strategies involving client and family
- C Story telling based on picture sequences
- D Oral exercises for non-speech movements
- E Auditory discrimination of word-length material



ASSISTIVE TECHNOLOGY

- A general term applied to devices that enhance the independence or level of function of individuals with disabilities (see PL 100-407).

Any item, piece of equipment or product system whether acquired commercially, off the shelf, or customized that is used to increase or improve functional capabilities of individuals with disabilities.



P.L. 101-476 IDEA

INDIVIDUALS WITH DISABILITIES

EDUCATION ACT

- This federal law mandates that all public schools give children with disabilities, no matter what their disability, the right to a free and appropriate public education (FAPE). If a child has a disability and is in need of special education and/or related services, an IEP has to be developed.
- P.L. 99-457 Reauthorization (AT for infants and toddlers) of Education of Handicapped Act (94-142)



LEGAL AND REGULATORY ISSUES

IDEA 2004 (2006), Part B supports nondiscriminatory service and disproportionality (over identification) prohibits ...

- discriminatory assessment/evaluation materials;
- assessment not in the child's native language or adapted mode of communication
- diagnoses of a disability due to lack of appropriate instruction,
- lack of consideration of the linguistic needs of a child identified in his/her IEP with limited English proficiency.

Whose responsibility is it anyway?

Local education agency (LEAs) are charged with the responsibility of providing necessary funding, and appropriate policy to address the disproportionate representation (overdiagnosis/underdiagnosis) of demographic groups in special education programs.



ATIA FUNDING RESOURCES GUIDE

[HTTP://WWW.ATIA.ORG/I4A/PAGES/INDEX.CFM?PAGEID=4219#FEDERAL PROGRAMS](http://www.atia.org/i4a/pages/index.cfm?pageid=4219#FEDERAL_PROGRAMS)

Quick Links to Funding:

- [Organizations](#)
 - [Insurance Options](#)
 - [Federal and State Programs](#)
 - [Special Education and the Public Schools](#)
 - [Advocacy Groups](#)
 - [State Vocational Rehabilitation Centers](#)
 - [Veterans Administration](#)
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 - [Scholarships](#)
 - [Fundraising Activity Ideas](#)
 - [Other Private Pay Options](#)
 - [Grants](#)
 - [Request for Proposals - RFPs](#)
 - [Additional Funding Resources](#)



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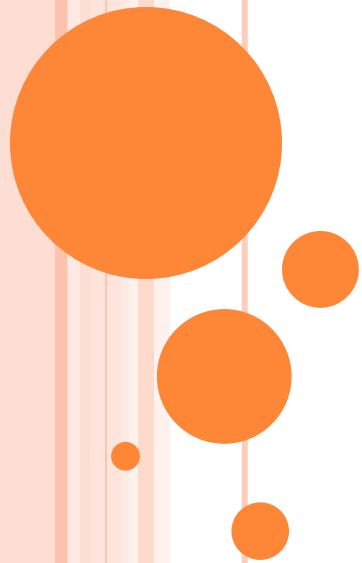
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MUCH SUCCESS ON THE PRAXIS!
Congratulations!