Natural Speech and AAC Intervention Strategies in Children with Dysarthria and Apraxia of Speech – Course Handout

OSLHA 2012 Convention
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Childhood Apraxia of Speech (CAS)

- Ad Hoc committee on CAS of the American Speech-Language Hearing Association (ASHA, 2007)
  “a speech sound disorder of neurological origin characterized by impairment in the precision and consistency of speech movements in the absence of underlying neuromuscular deficits.”

- Deficits planning & programming speech movements
  - Sequential ordering
  - Temporal & spatial relationships in speech
  - Phonological skills
  - Language acquisition
    [Yorkston, Beukelman, Strand, & Bell, 1999; ASHA 2007]
CAS: Characteristics

➢ Articulation errors
  o Omissions, substitutions, distortions, & additions
  o Difficulty producing sounds with greater phonetic complexity
  o Prolongations
  o Repetitions
  o Nonphonemic productions
  o Voicing, vowel, diphthong & nasality errors

➢ Sequencing errors
  o Metathetic
  o Consonant clusters

➢ Errors increase with length & complexity of utterances
  [Yorkston et al., 1999; Hall, 2007]
CAS: Characteristics

- **Difficulty**
  - Imitating sounds [Word initial position]
  - Transitioning between sounds

- **Prosodic disturbances**
  - Reduced rate of speech
  - Longer pauses
  - Reduced stress
  - Errors in syllabic stress

- **Inconsistent errors**

  [Yorkston et al., 1999; Hall, 2007]
Therapy Approaches

➤ Linguistic approaches [Hall, 2000]
  o Adopted with preschool & early elementary school children
  o Aim: Help children learn sounds & rules governing the use of sounds & sound sequences

➤ Motor-programming approaches [Hall, 2000]
  o Adopt principles of motor learning

➤ Intervention Methods [Cumley & Swanson, 1999; Yorkston et al., 1999]
  o PROMPT [Chumpelik, 1984]
  o Touch-Cue methods [Bashir, Grahamjones, & Bostwick, 1984]
  o Adapted Cueing Technique [Klick, 1985]
  o MIT [Helfrich-Miller, 1994]
Dysarthria

“Motor speech disorder where weak, imprecise, & uncoordinated movements of the speech musculature are observed secondary to neurological impairment”

[Yorkston et al., 1999]

- Congenital disorders that can cause dysarthria
  - Craniostenosis
  - Agenesis of the corpus callosum
  - Cerebral agenesis, microcephaly
  - Hydrocephalus
  - Down’s syndrome
  - Cerebral palsy
  - Moebius syndrome

[Yorkston et al., 1999]
Dysarthria

- **Main aim of speech and language therapy**
  - Maximize their communication skills

- **Traditional speech therapy**
  - Targeting the respiratory, phonatory, articulatory, & prosodic systems of speech
    - [Pennington, Miller, & Robson, 2009]

- **Children with cerebral palsy & Down’s syndrome**
  - Minimal overall improvement in speech intelligibility without the implementation of AAC strategies
    - [Hustad & Shapley, 2003]
Dual Paradigm Approach

- **Best approach:** Natural speech supplemented by AAC strategies
  
  [Hustad, Morehouse, & Gutmann, 2002]

- AAC intervention strategies shown not to hinder the development of natural speech
  
  [Culp, 1989; Romski & Sevcik, 2005; Millar, Light, & Schlosser, 2006]

- Ability to integrate & use multiple modes of communication depending on the communication partner & context
  
  - Effectively improves communication abilities
    
    [Hustad & Shapley, 2003]
Important consideration in children with severe AOS,
[Hall, 2000]

Shown to improve communication & social participation
[Beukelman & Miranda, 2005]

Established lack of research examining the speech outcomes when natural speech & AAC strategies are simultaneously targeted in children
[Hustad et al., 2002]

Limited literature regarding the decision making process adopted by professionals when adopting the dual paradigm approach
Research Questions

When addressing intervention for children with dysarthria & apraxia of speech, among the areas of participation, literacy, language, and speech:

How do AAC intervention specialists make decisions regarding the frequency and duration of therapy goals targeting natural speech?
Specifically,

- What are the benefits & challenges of targeting natural speech along with AAC intervention strategies?

- How do AAC intervention specialists make decisions regarding the time allotted for goals targeting natural speech in children?

- What is the frequency and duration with which goals targeting natural speech are implemented in therapy?
Method
Design

- Qualitative focus group methodology
  - No restriction on geographical location (Williams & Robson, 2004)
  - Allowed interaction in a convenient setting

- Online focus groups modified for online purposes
  [Vaughn et al., 1996; McNaughton et al., 2002]

- Recruitment
  - SLPs in the field of AAC with a strong record of publication
  - SLPs who had identified themselves as providing AAC services in societies & forums
  - Advertising in Division 12 of ASHA
Inclusion Criteria

**Apraxia of Speech**
- Certified SLPs with at least 5 years of clinical experience
- Significant clinical experience
  - Providing some type of AAC intervention services to children
  - Providing some direct intervention services to children with apraxia of speech

**Dysarthria**
- Certified SLP providing direct AAC intervention services for 50% of the time
- Experience providing AAC intervention services to children with dysarthria
- Have at least 5 years clinical experience
Materials

- **Online password protected forum**
  - phpBB® software

- **Demographic & screening questionnaire**
  - 12 questions
  - Individual password protected forums

- **Focus Group Discussions**
  - Open ended questions
  - Password protected forums
  - Questions were created by the researchers & modified based on feedback from 6 professionals
Focus Group Discussions

Overview of the Questions

- Adopted dual paradigm approach: Yes / No & reasoning
- Challenges & barriers implementing natural speech
- Decision making in children with severe & mild-moderate dysarthria / AOS
  - Time allotted
  - Frequency & duration of goals targeting natural speech
  - Strategies used for targeting natural speech & AAC
- Collaboration with team members
- Recommendations for a new clinician using the dual paradigm approach
Participants Enrolled

➤ **Apraxia of Speech**
- 8 SLPs
  - 7 SLPs - Masters degree & 1 SLP - PhD
- Settings: EI, hospitals, private & public schools, private practice
- Specialist Training: 2 day course on the Kaufman & Beckman program, PROMPT training
- Unaided & all levels of aided AAC used

➤ **Dysarthria**
- 5 SLPs
  - 4 SLPs – Masters & 1 SLP - PhD
- Settings: EI, Hospital, private & public schools, private practice
- Specialist Training: ATP (RESNA) & Level 1 PROMPT
- Unaided & all levels of aided AAC used
Expertise of the Participants

➢ Apraxia of Speech
  o Determining significant clinical experience
    ❖ Participants rated expertise on a scale from 1 to 7
    ❖ 3SLPs - 5, 1SLP – 5 to 6, 3SLPs -6, 1 SLP - 7
  o Determining significant clinical providing direct intervention services
    ❖ Participants rated expertise on a scale from 1 to 7
    ❖ 2 SLPs < 4, 1 SLP – 4, 2 SLPs – 6, 3 SLPs – 5

➢ Dysarthria
  o AAC intervention specialists
    ❖ Provided direct AAC intervention services 50% of the time (Beukelman, Ball, & Fager, 2008)
    ❖ Participant rating: 38-99% experience
  o Participants reported significant experience providing AAC intervention services to children with dysarthria
  o 5 years of clinical experience
Procedure

- Completed demographic & screening questionnaire
- Focus group discussions
  - Pseudonym / first name basis
  - Moderator
    - Posted weekly discussion questions
    - Send follow-up messages
    - Thanked participants
  - Welcome message & instructions for operating the forum
  - Extended for 7 -8 weeks
  - Forum kept open throughout the study
    - Greater flexibility for SLPs
Data Analysis

- Responses transcribed into *thought units*
  - Frankel (2006): “the smallest meaningful piece of information.”

- Operational definitions
  - Code thought units into themes & subthemes

- Reliability
  - Thought units: Second judge independently analyzed two responses from each discussion question
    - % agreement between both the raters calculated (> 80%)
  - Themes & Subthemes: Second judge independently categorized 20% of the total thought units based on operational definitions
    - Cohen’s kappa (> 0.90)
Results: Themes & Subthemes

AOS
Thought Units: 795, Themes: 7

Dysarthria
Thought Units: 487, Themes: 7
Key Decision Making Factors

Apraxia of Speech: 4 Subthemes & 43 Thought Units
Client Specific Factors

- Whether clients consider themselves to be verbal communicators
- Age
- Severity of AOS
- Current level of speech intelligibility
- Presence of concomitant conditions
- Attention span
- Motivation to communicate
- Communication needs
- Receptive & expressive language skills
- Willingness to participate in speech activities
Factors related to Prognosis

- Limited success observed with traditional speech therapy in 6 to 12 months
  - Focus on AAC while supporting existing speech skills

- Time spent on natural speech skills
  - Progress exhibited in functional communication skills

Recommendations & Input from the Team

- Parental preferences for verbal communication
- Parental involvement in take-home activities
- Team meetings or conferences

Factors Related to the Mode of Communication

- Child’s preference for a specific mode of communication
Theoretical Goals and Approaches in Therapy

Apraxia of Speech : 7 subthemes & 75 thought units
Dual Paradigm Approach

- Provided the child with a means to communicate with AAC while working on natural speech skills
  - Focused on AAC while supporting the child’s natural speech skills

- Increased functional communication
  - Targeting the communication mode easiest for the child & then incorporating speech targets

- Focused on increasing vocalizations with any AAC intervention

- Targeted functional language through AAC & speech
Rationale: Dual Paradigm Approach

- Interest & training in AAC
- Early understanding of benefits of AAC

Choosing Therapy Goals & Approaches

- Client driven
- Highly individualized process
- Spans over several sessions

Total Communication Approach

- Used signs, verbalizations, gestures, picture communication, & imitation therapy
  - Used for a child with severe AOS
Natural Speech Goals

➢ Targeted
  o Most meaningful words
  o Sounds that have the best chance of success
  o Stimulable sounds
  o Sounds with greatest impact on intelligibility

➢ Added
  o Syllable shapes that expand phonetic repertoire
  o Sound classes absent from the repertoire

➢ Enhanced functional verbal language
  o Based on the sounds the client produced

➢ Created & targeted a functional word list
  o Sounds that the child produced
  o Collaborated with the family & school

➢ Built a functional phrase list from the functional word list
AAC Goals

- AAC strategies for
  - Repair of communication breakdowns
  - Enhanced self-expression when challenging behaviors occur
- Expanded vocabulary, phrase length, & grammatical output
  - To match child’s expressive language capacity
- Focused on core words combined with key fringe vocabulary
- Combined words into 2-3 word utterances [used core words]
- Taught / increased the variety of language functions
- Taught core words to provide means to generate novel language across environments
Therapy Strategies & Activities

Apraxia of Speech: 9 Subthemes & 438 Thought Units
General Strategies

- Built on existing communication skills
- Adopted evidence-based strategies
- Kept therapy fresh
- Followed the child’s lead during the sessions
- Was aware of the child’s personal needs & motivation during the session
- Practiced daily: “200 opportunities a day”
General Strategies Focusing on AAC

- Used AAC
  - To establish effective communication in order to isolate speech issues
  - Signs to increase speed of communication
  - To extend communication opportunities
    - Used the child’s intrinsic motivation

- Practiced core vocabulary & functional words/phrases using signs

- Paired pictures with initial sound productions

- Discovered topics that the child was likely to initiate function

- Created a functional word & phrase book
AAC Strategies Focusing on Language & Literacy

➢ Developed literacy skills using Intellikeys® with a key guard
  o Spelling the target word to facilitate success
  o Naming each letter as it was touched
  o Repeating the full word as the space bar was hit

➢ Used
  o Classroom Suite software, Tech/Talk, Unity®, Step-by Step programmer™
AAC Strategies Focusing on Language & Literacy

- Introduced speech generating devices & communication boards

- Provided visual cues to assist in expressive language through an application for an iphone® / ipad®
  - Transforms typed words/messages into a video

- Focused on pragmatics
  - Recognition & repair of communication breakdowns
AAC Strategies Focusing on Language & Literacy

➢ Used

  o AAC for targeting story comprehension
  o Small ABC board
  ▶ Cue listeners regarding the phonemes
  o Low tech “communication ring”
  ▶ Important messages on the back of the card
  o AAC as a tool for maintaining or gaining communication success
  ▶ Fade as speech skills improve
Strategies Focusing on Improving Natural Speech Skills

- Provided meaningful responses to the child’s initiation
- Offered verbal models of the target word
- Used the child’s functional natural speech skills with familiar partners
- Analyzed sound patterns
  - Determined sound/syllable/word positions to be targeted
- Attempted to re-address speech goals every 4 to 6 months
  - If no progress was made / child did not participate in sessions
  - Goals were discontinued 3 to 4 sessions
Strategies Focusing on Improving Natural Speech Skills

- Targeted natural speech early in the session
  - Moved onto other goals addressing literacy skills
- Used functional & high occurrence messages
- Produced target sound at syllable level
- Used a combination of tactile, verbal, & visual cues
- Judged progress on a sliding scale
  - Closer & closer approximations of the target accepted
- Decreased syllable repetitions for word approximations
Strategies Focusing on Improving Natural Speech Skills

- Provided opportunities for imitation within natural play activities
  - Used structured tasks only if the child experiences success

- Used the following in therapy
  - Kaufman approach
  - Intense repetitions
  - Tactile cues: Single sound production
  - Syllable shaping: Placement of articulators
  - Visual cues: ‘Catalyst’ for speech
  - PROMPT
  - Sound discrimination & oral motor activities: Emphasize motor production differences
Strategies Focusing on Improving Natural Speech Skills

- Shaped approximations into intelligible word forms
- Targeted
  - Syllabification: Clapping the number of syllables in words
  - Sound production: Phonological processes
- Multiple word lists for practice
- Targeted words based on feedback / input from caregiver(s)
- Worked on speech in structured tasks & supported any attempts at natural speech
Strategies for the Dual Paradigm Approach & Total Communication Approach

- Used
  - Client’s spontaneous use of AAC device to enhance natural speech
  - Natural speech in conjunction with AAC [after client experienced success with natural speech goals]
  - Natural speech first & integrated AAC as required or adopted
    - AAC in instances of communication breakdowns

- Shifted focus from natural speech to AAC
- Encouraged the client to use all means of communication for functional communication
- Client chose an activity with the AAC device
  - Produced target word 5-10 times
Strategies for Generalization of Skills Taught in the Session

- Provided
  - Home programs
  - Homework to be shared with other therapists & school team

- Repeated skills taught in the session in different settings

- Mirrored approaches used by other therapists to ensure carryover

- Maintained
  - A notebook with a list of vocabulary targeted
    - Kept with the child
  - A “smart chart”
    - Showed other members of the team how to locate specific vocabulary on the device
Strategies for Generalization of Skills Taught in the Session

- Carryover activity each week
  - Required use of AAC device

- Used a “card ring” for speech / verbal targets
  - Current words targeted written on each card
  - Client’s best approximations written on the back of the card
  - Daily review of the card ring at home

- Communicated regularly via email with team members

- Promoted practice of carryover skills in different settings
Recommendations to New Clinicians
General Recommendations

➢ Be familiar with
  o Evidence-based practices
  o Research showing that AAC does not hinder the development of natural speech skills

➢ Do not hesitate to ask for help

➢ Ask for support & resources from other SLPs

➢ Provide a rationale for choosing an intervention strategy
Recommendations regarding the Client & Session

- Use AAC as a supplement
- Experience success in communication first before targeting speech goals
- Interpret the child’s messages accurately & sensitively
- Be caring communication partners
- Establish meaningful relationships with the client
- Explore the client’s interests & motivation when choosing topics
- Develop age appropriate activities
  - Help increase the child’s confidence & success in the school environment
Recommendations regarding the Client & Session

➢ Teach
  o Reading & writing [when speech is unintelligible]
  o Increasingly complex sentence structures & vocabulary
  o Language that helps resolve conflicts
➢ Create opportunities & reduce barriers to increase the use of AAC across multiple environments
➢ Model speech & thought processes
➢ Frequent re-evaluation
➢ Know the client’s strengths & weaknesses
➢ Be patient & flexible & listen
➢ Adopt a total communication approach to therapy
Recommendations regarding Team Work

➢ Involve the family meaningfully
➢ Determine cultural & personal preferences that drive therapy
➢ Provide light tech solutions if the family is not ready to accept SGDs
➢ Know that team members contribute alternate solutions, communication opportunities, & help in the participation of selecting priorities
➢ Develop a workable treatment plan
➢ Expect day-to-day participation of the team in practicing AAC strategies, taking notes, & measuring progress
Recommendations Regarding the Frequency & Duration of Goals Targeting Natural Speech
For Clients with Mild-Moderate Severity of AOS

- More time on goals focusing on natural speech skills
- Developed home programs
- 50% of the time /session: Natural speech goals
- Focused primarily on natural speech
  - Integrated AAC as needed [1 hour allotted for the session]
For Clients with Severe AOS

➢ Targeted
  o Speech goals every session
  o Speech goals during the first session & AAC goals in the second session
  o Natural speech goals in a structured manner for 50% of the time
  o Natural speech goals: 45-50% of the time depending on the client’s abilities
  o Natural speech in repetitive segments
    ❖ Target speech sounds for 5 minutes, move onto another activity, & return to initial activity for another 5 minutes
For Clients with Severe AOS

- Focused on the use of natural speech with the AAC device for support in at least one session per week

- Did not spend more than 3-5 minutes for a task [Client with short attention span]

- Shifted balance from spending all the time in the therapy session on natural speech to splitting the time between natural speech & AAC
Benefits

Apraxia of Speech: 2 Subthemes & 38 Thought Units
Benefits: AAC

- AAC strategies complimented the child’s natural speech skills
- Supports
  - Receptive & expressive language
  - Speech
  - Behavior
- Focus on other goals in therapy without adding the stress of speech production
- Prevents greater delays in the child’s language abilities
Benefits: AAC

- Augments vocalizations, gestures, word approximations, eye gaze, & facial expressions
- Supplemental mode of communication till functional verbal communication is achieved

Benefits: Additional Mode of Communication

- Reduces the pressure on the child to communicate verbally
  - Enable the child to relax
  - Make willing attempts at natural speech production at his/her own time and pace
Challenges Faced by the Clinician

Apraxia of Speech: 6 Subthemes & 58 Thought Units
Challenges: Natural Speech Therapy

- Dealing with the child’s frustration
  - Unintelligible speech
  - Communication breakdowns
  - Reduced motivation in therapy

- Client specific
  - Severity of AOS
    - Intelligibility of speech
  - Stimulability
  - Presence of concomitant conditions
  - Age
  - Avoidance to speech tasks
  - Lack of willingness to attempt speech

- Difficulty sustaining interest in articulation therapy
Challenges: Natural Speech Therapy

- **Initial barrier**
  - Getting the child to produce vocalizations followed by verbalizations
  - Achieving adequate intelligibility of vowel productions

- **Counseling regarding the time taken by the child to demonstrate progress**

- **Encouraging**
  - Child with severe AOS to use natural speech for communication
    - Especially when they possessed the skill to do so
  - Interaction & participation in therapy exercises
Challenges: Process Barriers

- Lack of insurance coverage
- Difficulty arranging transportation
- Scheduling conflicts

General Challenges

- Lack of training or expertise in a specific area
- Limited time in therapy to address goals targeted,
- Understanding that young children have difficulty empathizing with others
Challenges: AAC

- Addressing parent concern
  - AAC: Affect natural speech skills?
- Reluctance to accept AAC, especially when the child has natural speech skills

Challenges: Generalizing Skills

- Difficulty with having the parents follow through with a home program
- Transferring isolated production into meaningful utterances in different environments
- Having parents practice techniques taught in therapy at home
Strategies for Collaborating with the Team Members

Apraxia of Speech: 3 Subthemes & 136 Thought Units
Strategies for Collaborating with the Parents / Caregivers

- Educated parents on why their child needed help & what they could do to help
- Asked parents to be accurate interpreters of child’s nonverbal communication
- Worked with parents regarding:
  - Family acceptance of AAC
  - Strategies used to ensure consistency among settings
  - Identification of strategies that worked best for the child & motivating topics for sessions
  - Identification of meaningful vocabulary [family]
  - Identification of targets for practice at home
  - Development of goals
Strategies for Collaborating with the Parents / Caregivers

- Encouraged parent participation in the sessions
- Provided
  - Written instructions for reference
  - Video recording of the session for review
- Discussed & critiqued the effectiveness of techniques
- Advised incorporation of AAC techniques at home
Strategies for Collaborating with the School / EI Team

- Met to discuss goals & measured progress toward goals on a monthly basis
- Collaborated with the school SLP on natural speech goals & strategies
- Communicated with
  - Teachers & aides: Regarding carryover activities
  - Educators: Regarding classroom routines & curriculum needs
- Followed the interdisciplinary model described by Prelock et al., 2003
- Provided written information to the school team
General Strategies for Collaborating with Team Members

- Understood & respected different learning & teaching styles
- Targeted activities & vocabulary not focused on in school settings
- Shared responsibilities
- Offered specific solutions to concerns
- Set motivation priorities
- Agreed on meaningful goals
- Focused on removing communication barriers
- Willing to
  - Adjust to new growth
  - Abandon a failed strategy
  - Accept success as a team rather than an individual triumph
Theme: Other

AOS: 7 thought units
Results: Themes & Subthemes

Dysarthria:
Thought Units: 487, Themes: 7
Key Decision Making Factors

Dysarthria: 6 Subthemes & 77 Thought units
Client Factors

- Need for recognizing attempts at communicating
- Age
- Case history
- Duration for which natural speech was worked on & +/- improvements
- Intelligibility to familiar & unfamiliar listeners and in connected speech tasks
- Severity of the child’s dysarthric speech
  - Established based on the word repertoire
  - Positioning needs of the child
Factors Related to Prognosis

- Focused more on augmentative communication
  - Limited improvement in speech intelligibility
  - Natural speech targeted over time / regression – speech skills

Assessment Findings

- Meeting with the family & child
- Documenting & evaluating communication modalities
- Use of an assessment tool [Social Networks]
  - Profile of the student’s communication skills in different environments
  - Assess – families rate effectiveness & intelligibility of natural speech
Situational & Contextual Factors

➢ Special events that required specific skills
  o Example: Using the device in a school play or using natural speech for a conversation over the telephone

Mode of communication

➢ Speed of AAC vs. natural speech
  o AAC significantly slower than speech

Recommendations from team members
Theoretical Goals & Approaches

Dysarthria: 7 Subthemes & 58 Thought Units
Goals / Approaches

➢ Knowledge of strategic competence
  o Knowing which unaided / aided communication is most effective
  o Repairing communication breakdowns
  o Applying repair strategies when unaided means fail

➢ Used
  o Multi-modal communication
  o Dual paradigm approach in the initial sessions
    ✷ Establishing rapport
    ✷ Rewarding successful communication
    ✷ Functional approach
  o Total communication approach
  o Focus on communication goals & speech goals
Goals / Approaches for AAC users

- Used high tech tools for specific purposes
  - Writing, giving presentations, telling stories
- Determined the most important repair strategy
  - Depending on communication partner / communication environment
- Improved ability to predict harder phonemes for partners to interpret
  - Used AAC for harder phonemes
- Improved intelligibility of speech with an AAC strategy
  - First letter alphabet cueing

Client-driven

- Supported client’s preferred mode of communication
- Play based
- Low pressure
Therapy Strategies & Activities

Dysarthria: 10 Subthemes & 223 Thought Units
General Strategies

- Mode of communication that makes the child most functional with unfamiliar listeners

- Worked on
  - Identifying aspects of communication that were challenging
  - Chart of various ways of interacting with partners
  - Oral motor function through snack and play activities

- Identified
  - Barriers to staying in conversation
  - Best times to use an aid or strategy practiced in the session

- Set goals for the next day
  - Based on what worked & did not work in the previous sessions

- Used extension activities
Strategies Focusing on AAC

- Frequency & duration of AAC goals [Examples]
  - AAC - 70% of the time / session
  - AAC - 20 minutes in a 30 minute session
  - AAC - 50% of the time / session

- Aided language stimulation with AAC

- Listed no tech, low tech, & high tech communication devices

- When the team was not open to AAC intervention
  - Limited AAC intervention to one, powerful activity to show immediate benefits of AAC

- Recognized a communication breakdown
  - Determine the appropriate strategy to repair the breakdown
Strategies Focusing on Improving Natural Speech Skills

- Frequent repetitions of tasks
- Focused on [In the presence of significant deficits]
  - Speech production
  - Breath support
  - Positioning
  - Functional word vocabulary
- PROMPT training
- Taught self-awareness & understanding of how client’s sounded to others
Strategies Focusing on Improving Natural Speech Skills

- Frequency & duration of goals targeting natural speech skills
  - Verbal speech: 20 to 30 minutes / 60 minute session
  - Targeted to achieve 50+ repetitions from the child within 20 to 30 minutes
  - Natural speech goals: 15 minutes in the session (mild dysarthria)
  - Speech production goals: once per week for 6 months
Strategies for the Dual Paradigm Approach & Total Communication Approach

- Worked on natural speech & aided AAC separately
  - Then introduced integrated activities
  - When improvement was observed in both the modes
- Designed AAC interventions that made use of the child’s natural speech skills
- Exposed the child to different modes of communication
  - Express preference for one or more modes of communication
  - Followed the child’s lead
- Consistently used low tech or no tech AAC & speech in all environments
- Incorporated activities for natural speech & AAC in each session
Strategies for the Dual Paradigm Approach & Total Communication Approach

➢ Activities to incorporate natural speech & AAC
  o Story book reading
  o Composed a message on the device & verbalized the message using natural speech

➢ Used
  o Aided means to communicate [Failure to communicate after 3 verbal attempts]
  o First-letter alphabet cueing

➢ Targeted both speech & AAC during the 30 minute session [x 2/week]

➢ Practiced a skill / strategy taught in the session,
  o Attempted with familiar partners
  o Attempted with peers
Strategies for Generalization of Skills Taught in the Session

- Chose specific environment
  - Child required independent use of skills

- Taught new strategy
  - Incorporated role play / isolated practice [familiarization]
  - Changed location of intervention

- Reverse-inclusion opportunities

- Emailed updates

- Checked in frequently with the student
  - Provide a measure of their success with the strategy or technique

- Embedded goals & objectives into natural routines

- Checked with the school team
Recommendations to New Clinicians
General Recommendations

- Keep up with research
- Adopt evidence-based practices
- Follow your best judgment
- Look into the future when considering goals
  - Consider independence in teen & adult life
- Provide many options while communicating
  - Encourage multimodal communication
- Be open minded to new techniques & suggestions
- Do the best you can!
Recommendations regarding the Client & Session

- Support the most comfortable methods
- Encourage new, effective, & efficient strategies
- Be thorough with expectations of when & how to use AAC

- Remember that
  - Aided & unaided AAC can be used simultaneously
  - Duplications: Waste of time, energy, & space on a communication board
  - Change the strategy or focus on a specific skill area
    - Not the student’s failure if progress is not being made towards the goals

- Encourage natural speech when using AAC systems
  - Learns to simultaneously use natural speech & AAC
Recommendations regarding the Client & Session

- Assessment tools
  - Social Networks, Framing a Future

- Incorporate data from assessment of linguistic, motoric, sensory skills, & QOL indicators in the intervention plan

- Keep good data
  - On intelligibility
  - On speech & AAC simultaneously
    - Assess whether speech or AAC has the most +ve effect on functional communication
Recommendations regarding Team Work

- Be willing to be part of the team
- Share information with all team members
- If the team does not seem to accept AAC
  - Spend more time on speech intervention & keep AAC interventions short
- Document expectations in collaboration with the team
  - Review them on a regular basis
- Client is the most important member of the team
- Understand what each member of the team considers as a priority
- Train team members to carry out goals & objectives when engaging in daily routines
Benefits

Dysarthria: 2 Subthemes & 5 Thought Units
AAC & Natural Speech

**AAC**
- Used for functional communication [Severe speech impairment]
- Vital when the child gets older & social world gets bigger
  - Prognosis in speech skills is difficult to determine
- Communicate with more unfamiliar partners
  - Less dependence on interpreters
  - More independence in teen & adult life

**Natural Speech**
- Important to have a few intelligible words to meet rapid needs
Challenges

Dysarthria: 4 Subthemes & 55 Thought Units
Challenges: Natural Speech Therapy

➢ Articulation therapy
  o Uninteresting / tedious for the child
  o Not child directed
  o Client has difficulty working on goals & objectives

➢ Child’s frustration and / or embarrassment
  o Partners limited understanding of the child’s natural speech
  o Frequent repetition of messages
  o Frequent use of repair strategies
  o Reduced use of natural speech for communication
Challenges: AAC

- **Parent & child apprehension:** *Shift focus from natural speech therapy*
  - Slow implementation
  - Difference in opinion between clinician & family
  - Parents refusal to accept alternate mode of communication

- **Family preference for natural speech, oral motor exercises, & articulation drills**
  - Child’s preference for natural speech

- **Difficulty introducing another tool for communication**
  - In addition to natural speech
  - Use of AAC with familiar partners
  - Refusal to use an AAC device
General Challenges

- Limited therapy time
- Difficulty
  - Expanding vocabulary
    - Clients with established & thorough vocabulary
  - Balancing time
    - Verbal vocabulary vs. that needing an AAC device
- Limited EBP recommendations

Challenges: Generalization of Skills

- Lack of generalization
  - If skills are only taught in the clinic setting
Strategies for Collaborating with the Team Members

Dysarthria: 3 Subthemes & 59 Thought Units
Strategies for Collaborating with the Parents / Caregivers

- Parent participation in the session
  - Take over an activity

- Discussions with parents
  - Additional activities at home in which strategies could be incorporated
  - Different problem solving strategies

- Home visits

- Communicated with the parents via email or written notes

- Taught the families how to integrate goals and activities into the child’s daily routines & play activities
Strategies for Collaborating with the School / EI Team

- Exchanged information & ideas with the school/private SLP
  - Strategies & activities that work for the child during the sessions
  - Explained goals being addressed & prompts used
  - Weekly meetings

- Encouraged feedback from the team members
  - Use & success of strategies in different environments

- Modeled activities for the classroom staff

- Participation plan

- Developed a check list or chart
General Strategies for Collaborating with Team Members

- Maintained a ‘communication binder’
  - Log of what was targeted in each session to share with the team
  - Communicate & get feedback from the team
  - Vocabulary and programming needs

- Developed a ‘cheat sheet’
  - Consisted of important activity specific vocabulary
Theme: Other

Dysarthria: 10 Thought Units
References


References


