

Complex AAC

Case Studies Including Hands-on Strategies to Give Every Child a Voice

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About Lacey



- I have lived and worked in Ames as a pediatric SLP since 2011
- My husband and I have 4 daughters
- I “specialize” in AAC, infant feeding, and reading
- I opened my own private practice in May 2022- Playful Speech & Feeding
- I am the past-president of ISHA and am not getting paid to present

About Sydney



- I have been a pediatric SLP for 10 years, working in EI, the schools and private practice.
- My husband and I have 2 daughters (Ages 1 and 3)
- We live in a small town of 550 people.
- I am not getting paid to present

Who are you?

Where do you work?

How many years have you been an SLP?

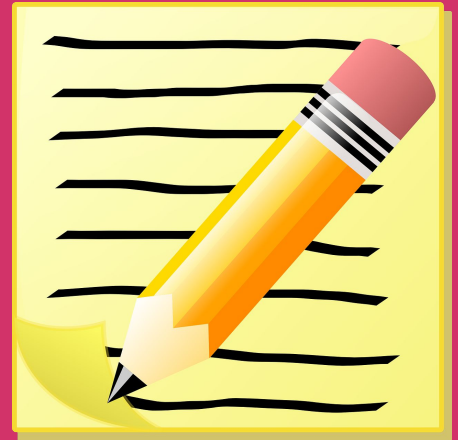
Is there anyone who isn't an SLP?

What is your comfort level with AAC?



Think of a child who uses AAC that challenges your skill set.

Write down what is working, what isn't working, and what questions you have.



ASHA's Definition of AAC

AAC uses a variety of techniques and tools to help the individual express thoughts, wants and needs, feelings, and ideas, including the following:

- manual signs
- gestures
- finger spelling
- tangible objects
- line drawings
- picture communication boards and letter boards
- speech-generating devices

AAC is **augmentative** when used to supplement existing speech, **alternative** when used in place of speech that is absent or not functional, or **temporary** as when used by patients postoperatively in intensive care (Elsahar et al., 2019).

<https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/>



AAC Systems- What ASHA says

An **AAC system** is an integrated group of components used to enhance communication. These components include forms of AAC (described below), symbols, selection techniques, and strategies.

The design of an AAC system should incorporate individual strengths and needs. It considers the individual's full communication abilities and may include existing speech, vocalizations, gestures, and/or some form of external system (e.g., SGD).

An individual may use multiple modalities or many forms of AAC in combination, allowing for change based on context, audience, and communicative intent. **A well-designed AAC system is flexible and adaptable.** It allows for changes to vocabulary and mode of access as the individual's language and physical needs change over time.

<https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/>



Complex AAC- What does that mean?

Medically Complex Child

Some children gradually or rapidly decline in their physical abilities causing SLPs to find a new communication path

What works one day doesn't work the next

Multiple Forms of AAC

Different systems for different locations

Different systems for varying medical states

Transitioning from one system to another

Lack of Experience

An an SLP, complex can feel different for each of us

Our lack of experience and exposure can make AAC complex

Where do you start with
complex AAC?



Complex AAC- Where to Start

Interview & Observe

Talk with the child's caregivers, friends, school team, therapy team, and other important people

Observe the child in as many settings as possible

Review their file

Assess & Plan

Functional Communication Profile-R
by Larry Irwin Kleiman

Communication Matrix
from Charity Rowland

Write goals and don't be afraid to change them

Build a Team

Have a team meeting with as many people as possible- family, therapists, teachers, etc.

If the child is able to participate, they should be in the room, at the table, confirming the goals are what they want

<https://www.proedinc.com/Products/34040/fcpr-functional-communication-profilerevised.aspx>

<https://communicationmatrix.org/Matrix/>

<https://www.communicationmatrix.org/uploads/pdfs/Communication%20Matrix%20Questions.pdf>

Case Study #1- Natalie

18 months old

Family delayed starting therapy at least 6 months

No Diagnosis

"She had words. I have them recorded. Then she just quit talking."

Non-speaking toddler who had passed a hearing test

"Nothing works"

Another therapist (a really good one) couldn't find anything the child enjoyed. She just cried.



Where do you start?

How do you assess?

What are your goals?



Case Study #1- Natalie

Building Trust

Natalie fell asleep during many sessions.

Was she tired? Avoiding?
Sad?



Motivation

Figured out what motivated her to engage with any object or person



Vocalizations

Used gross motor activities to encourage vocalizations

No consistent sounds were produced after 6 months of weekly therapy

Case Study #1- Natalie

Mom Knows Best

Mom asked if I knew
about eye gaze systems
I knew nothing...



Eye Gaze Trials

3 devices were trialed
and an Accent device
was selected

Started with 8 buttons
per page

Diagnosis

Genetic testing resulted
in a Rett Syndrome
diagnosis

Increased awareness for
variable medical status



Case Study #1- Natalie

Progress

Pages were added and button size decreased

16-button pages introduced and used successfully

Natalie knew what she wanted to say!



Decline

6 months of health decline lead to decreased communication

New eye gaze system acquired to accommodate body positioning

Backup System

A less demanding system was needed for the days her body was not capable of utilizing an eye gaze system

A Quick Communication Board was created with a Big Mack Switch



Quick Communication Board Example

This is a sample Quick Communication Board. Please adapt the categories to suit your needs. Icons will say "yes" with a check mark, indicate the category or a word. You will use the words in their category and the red "yes" when the words about the words to say. If a word doesn't say "yes", "Should say the category word?"

Quick Words	Food & Drinks	People & Pets	Food & Drinks	Places	Feelings
Yes	YouTube	Dad	Chocolate cake	Home	Happy
No	Watch TV	Mom	Juice	My bedroom	Sad
I don't know	Music	Sister	Water	School	Fine
I need help	Snacks & drinks	Brother	Milk	Youth group	Good
Stop	Ride Horses	Dog	Crackers	Church	Bad
Go	Take a Nap	Grandma	Fruit Snacks	Therapy	Sick
More	Game	Grandpa	Cheese	Bar	Tired
All done	Outside	Mrs. Wolf	Fruit	Park	Hurt
Hello	Books	Mr. Sheela	Candy	Pool	Excited
Goodbye	Crafts	Friend	Cheese Stick	Doctor	Surprised

Quick Communication Board Example

This is Lacey's Quick Communication Board. Please read the categories from left to right. Lacey will say "yes" with a switch when she hears the category she wants. You will then read the words in that category and she will say "yes" when she hears what she wants to say. If Lacey doesn't say yes ask, "Should I read the categories again?"

Quick Words	Toys & Activities	People & Pets	Food & Drink	Places	Feelings
Yes	YouTube	Dad	Chocolate milk	Home	Happy
No	Watch TV	Mom	Juice	My bedroom	Sad
I don't know	Music	Sister	Water	School	Fine
I need help	Stuffed Animals	Brother	Pop	Youth group	Good
Stop	Ride Horses	Dog	Crackers	Church	Bad
Go	Take a Nap	Grandma	Fruit Snacks	Therapy	Sick
More	Game	Grandpa	Oreos	Barn	Tired
All done	Outside	Mrs. Wolf	Fruit	Park	Hurt
Hello	Books	Ms. Shaela	Candy	Pool	Excited
Goodbye	Crafts	Friend	Cheese Stick	Doctor	Surprised

Problem

Natalie's body continued to fail her resulting in limited communication via eye gaze

Positive

Natalie easily used the Quick Communication System in combination with her eye gaze system

Case Study #2- Kirsten

3 Years Old

Family had recently moved from Boston, had school-based services established.

Dandy Walker Malformation

Diagnosed in utero, accompanied by Hydrocephalus
Seizure Disorder:
experiencing 8-10 head drop seizures per day, previously Grand Mal but since managed with medications.

Cortical Vision Impairment

Visual preference left field, Latency to focus -nystagmus that worsens with fatigue

Where do you start?

How do you assess?

What are your goals?



Case Study #2- Kirsten

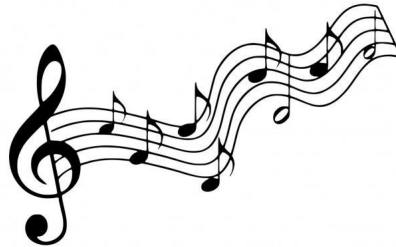
Building Trust

The family's top priority in this moment was communication.

They had a negative experience with their last outpatient therapist.

Motivation

Determined what motivated her to communicate and engage.



Signs

She had a few approximated signs, difficult due to delayed motor skills.

Had no vocalizations.

Case Study #2- Kirsten

Switches

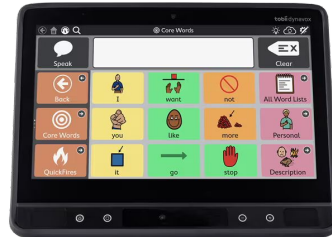
Cause & Effect
Step-by-Step for
turn-taking opportunities



AAC Trials

2 devices were trialed
and Tobii Dynavox I-16
was selected

Started with 6 buttons
per page, high contrast
images



Progress

Pages were added and
button size decreased

12-button pages
introduced and used
successfully

Kirsten's personality
shined!

Case Study #2- Kirsten

Access Difficulties

TD I-16 was large & heavy, pt would pull on her device and strip the mounts repeatedly.

Decline

Decline in health resulted in difficulties accessing her device through direct access.

Partner assisted “eye gaze” was utilized with her Tobii device to interpret intended communication.

Eye Gaze Trial

New eye gaze system was trialed and acquired to accommodate decline in motor abilities.

Problem

Insufficient mounting system and decline in motor abilities limited access to communication for an extended period of time.

Positive

Acquisition of an eye gaze system restored consistent access to communication.

1. Find someone you don't know
2. Conduct a 5 minute interview to get to know them!

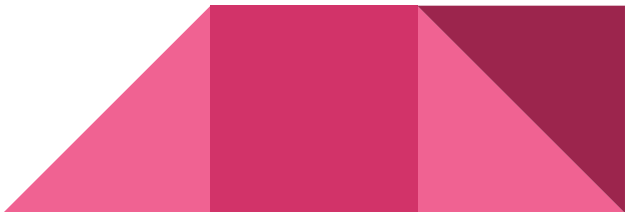


Create a Quick Communication Board for your Partner

- Using the information you gathered during your interview, create a Quick Communication Board for your partner
- Your partner is not allowed to give you any feedback about what they want included on their board



Using Your Quick Communication Board...

- Partner #1 reads their scenario to themselves which tells them what they want to communicate
 - Partner #2 is the SLP and will use the Quick Communication Board they created for Partner #1
 - Partner #1 determine how you will communicate “yes”
 - Blinking, squeezing a finger/hand, moving a foot, etc.
 - Partner #1 communicate your scenario using the Quick Communication Board
 - Switch and make Partner #1 the SLP
- 

Discussion!

How did it go?

What did you feel as the SLP?

What did you feel as the student/child?



Creative Ways to Implement a Quick Communication Board

Squeeze a Finger

My index finger rested inside the child's hand and he squeezed to say "yes"

There were days when squeezing was just a muscle twitch

Pushing a Switch

Mount a switch with velcro to a wheelchair so a child can use their foot to say "yes"

Mount a switch to the headrest of a wheelchair or an armrest

Eye Blinks

A child had worked with her parents to blink for "yes"

It appeared taxing for her to keep her eyes open to wait to blink "yes"

Let's try it with partners

Case Study #3- Jared

4 years old

Limited school
experience due to foster
care setting and adoption
Unknown medical
background but assumed
not good

Legally Blind

Unknown amount of
shadow vision
Used his hands as if he
was blind

Deaf

Non-speaking and
assumed deaf due to
hearing tests but may try
hearing aids

Where do you start?

How do you assess?

What are your goals?



Case Study #3- Jared

Cause & Effect

Goals focused on interacting with musical and light up toys



Building Trust

Touching people, toys, objects, room materials, etc. took TIME and TRUST

"I'm going to touch your arm"

Remember- at this time the child was non-speaking

Vocalizing & Hearing Aids

Jared started experimenting with his voice

Family got hearing aids for him to see if they would benefit him and they seemed to help

Case Study #3- Jared

Vocabulary Building

Assessed very functional environmental words and what Jared understood

Did anyone move him around his environment and talk him through his world?

Tactile Choosing

Placed 2-3 objects on the table in front of him on a tray and asked him to "hand me the ____" or "touch the ____"

Once I was confident he knew the object we moved on!



Following Directions

We focused on functional directions to increase his independence while moving about his environments



Case Study #3- Jared

Big Mack Switch

Programmed “yes” on a switch so he could make a choice between two activities

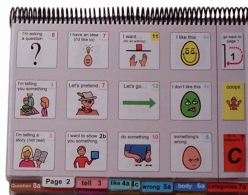
Eventually we did 1 preferred and 1 non-preferred for a short time



PODD Book

Communication partner voiced assisted PODD book was created

I read through the customized PODD book in the same order each time and he said “yes” via the Big Mack Switch to communicate his wants/needs/ideas



Word Approximations

After years of therapy, Jared started speaking a few words

We worked up to about 20 words that were intelligible to familiar listeners

Jared rarely said “yes” while using his PODD book- he preferred the switch

Problem

Family did not use the PODD at home on a regular basis despite over a year of education and urging to “give him a voice at home”

Positive

A child who came in labeled as “deaf and blind” ended up with a robust language system and he MEMORIZED it allowing him to anticipate what he wanted to say

Case Study #4- Sam

7 years old

Family moved to US from India 8 months prior to evaluation.

No formal treatment prior to initiating school shortly after arriving in the US.

Legally Blind

Vision loss due to cataracts, glaucoma, vitreous hemorrhage in L eye

Seeks light

Never exposed to Braille

Deaf

Profoundly deaf in both ears due to history of Congenital Rubella

L cochlear implant placed 2 months prior to evaluation

Where do you start?

How do you assess?

What are your goals?



Case Study #4- Sam

Building trust

Touching people,
exploring the room,
materials in the room

Cause & Effect

Goals focused on
interacting with light up
toys and toys that
provided physical
sensations (fan, vibrating
switch)



Increasing CI Use

Family or therapist
speaking, producing
sounds

Environmental sounds

What was motivating?

Case Study #4- Sam

Functional Communication

Assessed functional communication with Communication Matrix

What behaviors was he using to already communicate?

[illegible]

Tactile Communication

Began teaching core words, preferred objects through a tactile system



Tactile Schedule

Worked with school team
to create and teach
tactile schedules/work
systems



Problem

Family had difficulties attending outpatient sessions, only seen for 6 sessions between eval and d/c.

Patient had limited treatment prior to coming to the US at age 7.

Positive

Showed family that he was using intentional communication through various behaviors. Educated family in tactile systems and created a basic system to be used at home prior to discharge.

How many people have
experience working with a
visually impaired or blind child?

What has worked for you?
Where do you struggle?



Resources for Visually Impaired Students

American Printing House <https://www.aph.org/>

Iowa Educational Services for the Blind & Visually Impaired <https://www.iesbvi.org/>

Summer Institute <https://www.iesbvi.org/educator-resources/summer-programs/>



Case Study #5- Mitchell

24 months old

Mitchell was 24 months old but presented with the skills of a 6 month old

Family had taught him a handful of signs which he used

Vent & Trach

He was SO medically fragile and required 24 hour care

Non-speaking due to trach and vent

NICU Baby

He spent the first year of his life in the NICU and the 2nd year at home

Where do you start?

How do you assess?

What are your goals?



Case Study #5- Mitchell

Build Trust

Mitchell didn't want to touch ANYTHING

I had to show him I wasn't a doctor

Increase Signs

Because family started with signs, I continued and increased the number of signs he used



Picture Book

Mitchell quickly outpaced family's ability to keep up with his sign language so they added a picture book which was a binder with construction paper and page protectors

Case Study #5- Mitchell

Trialed SGDs

Used a Nova Chat 7 to communicate in all environments!



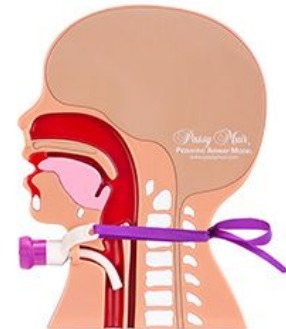
Passy Muir Valve Goals

Worked on being OK with his PMV case being on the table in front of him and eventually wearing the PMV



Voiced with PMV

Practiced learning how to form functional words while wearing his PMV



Case Study #5- Mitchell

Sign, TouchChat, Voice

Mitchell was using all 3 forms of communication
To keep up with his rapid development, I used my daughter's phrases and programmed them into his device (book page)

Voice & TouchChat

Eventually Mitchell started using his voice more than his TouchChat
His device became how he repaired communication breakdowns



Voice & Reading

By the end, Mitchell had above average language and reading skills and only used his voice

He remains medically complex and an AMAZING high school student

Problem

Mitchell had to work extra hard to prove himself to some adults that doubted his abilities

Positive

Mitchell has shown a child can go from non-speaking to low-tech, high-tech, and eventually end with speaking!



Think of a child who uses AAC that challenges your skill set.

Write down what is working, what isn't working, and what questions you have





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