

Augmentative Communication and Classroom Learning Considerations



Tips for Classroom Integration of AAC Devices



Augmentative Communication and Classroom Learning Considerations



Introduction: Speaking is the major mode of expression in a typical classroom. Students use speech to answer questions, to ask questions, to share information, to socially interact with peers. Many literacy skills are learned and evaluated through verbal modalities.

However, not being able to speak (or speak clearly) does not necessarily equate with "unable to learn" in the classroom setting.

In fact, the language learning activities within a classroom, as well as the routine opportunities to interact, are the most natural conditions for a student who uses an AAC system/device to LEARN. The challenge for the educational team is how to *integrate* classroom activities so that the student is able to LEARN academic skills, LEARN to participate in conversational routines, as well as, LEARN to use the AAC system/device.

Appropriate knowledge and planning is key to this integration process.

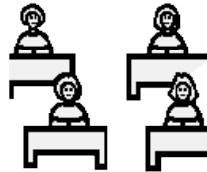
What does AAC stand for?

AAC stands for Augmentative and Alternative Communication. It is a system that supplements speech or provides an alternate means to expressively communicate when typical speech is not adequate. The use of an AAC voice output device will NOT prohibit a person from learning to speak. In fact, the reverse is often true. The AAC device provides a way for the individual to become a successful communicator, and provides a self generated model of speech.

Anything is possible if you plan ahead!!!

Getting Ready.....

It's important to take a closer look at the classroom before the student takes their first steps in the room. Many obstacles can be eliminated with good planning!



Physical Environment.....

As with any child the learning environment is crucial. Taking a physical environment inventory is a great way to start. Areas to address:

1. Positioning of the student for greater participation
2. Location of materials
3. Manipulation of materials
4. Classroom assistance (aide/ peer buddy)
5. Low tech materials to supplement needs

Attached is a sample inventory of activities throughout the kindergarten day as well as a blank inventory to be copied and used to address a specific schedule.

PHYSICAL ENVIRONMENT INVENTORY

(sample inventory)

ACTIVITY	LOCATION	POSSIBLE BARRIERS	STRATEGIES
Transportation to school	Walking or riding the bus	<ul style="list-style-type: none"> • Difficult for student to carry • Safety of equipment 	<ul style="list-style-type: none"> • Carrying case with name of student/address • Inservice bus driver to designate location for the device while in transit
Entering the classroom	homeroom	<ul style="list-style-type: none"> • Device may not be charged or forgotten by student • Difficulty hearing the device • Not enough workspace for device and work materials • Nonambulatory students may not be able to fit their wheelchair/walker to freely move around classroom 	<ul style="list-style-type: none"> • Device checklist for student/aide • Position students seat towards the front of classroom • If using classroom table position student at the end/if using desk utilize storage underneath for materials not being used and the device at an angle off to side when doing worksheets • Widen aisles between desks/tables • Adjust the height of desk so that the wheelchair can fit under it
Workshops	Desk/tables in classroom	<ul style="list-style-type: none"> • Moving around the classroom • Unable to manipulate materials 	<ul style="list-style-type: none"> • Carrying strap for device • Wider aisles between tables • Peer buddy • Use of classroom aide to turn pages • Low Tech assistive tech devices: <ol style="list-style-type: none"> 1. page turner 2. pencil grip 3. access to computer for writing 4. alternate keyboard (ie. Intellikeys) • Name stamps or self-adhesive labels if student cannot write his/her name on worksheets
Circle time	Around the carpet	<ul style="list-style-type: none"> • Device being heard • Unable to participate • Positioning of the device when on the floor • Wheelchair doesn't allow student to see 	<ul style="list-style-type: none"> • Position toward front • Turn volume up • Position student near peer buddy • Make room for device to sit in front of student or position on lap • Use a question cue (ie. "you will have the next question", consistent question every day, question given the day before for homework, etc.)
Reading	Desk/tables in classroom	<ul style="list-style-type: none"> • Device being heard • Verbal participation • Unable to read out loud 	<ul style="list-style-type: none"> • Position toward front • Turn volume up • Peer buddy • Use of classroom aide to help student locate book vocabulary • Low Tech assistive tech devices: <ol style="list-style-type: none"> 1. page turner • Have student point to words as they are read/point to pictures on page to locate vocabulary • Sentence completion • Answer comprehension questions
Lunch	Cafeteria	<ul style="list-style-type: none"> • Unable to use the device due to risk of damage and difficulty manipulating device and lunch tray at the same time 	<ul style="list-style-type: none"> • Designate area in homeroom to store the device before leaving for lunch • Make pocket size picture cards for: (1) Requesting special items (ice cream, extra butter bread, chocolate milk, etc.) (2) Requesting help or to go to the bathroom

ACTIVITY	LOCATION	POSSIBLE BARRIERS	STRATEGIES
Recess	Playground	<ul style="list-style-type: none"> Limited access to communication 	<ul style="list-style-type: none"> Leave the device in room Use picture cards for basic needs: <ol style="list-style-type: none"> Requesting help or to go to the bathroom
Self selected reading	Homeroom	<ul style="list-style-type: none"> Manipulating pages 	<ul style="list-style-type: none"> Peer buddy reads with student/turns the pages Low Tech assistive tech devices: <ol style="list-style-type: none"> page turner Great time to work one on one with aide/teacher on book of the week vocabulary
Story time	Desk/tables in classroom	(no barriers, listening activity)	
Math/fine motor Activity	Desk/tables in classroom	<ul style="list-style-type: none"> Manipulating materials 	Peer buddy Use of classroom aide <ul style="list-style-type: none"> Low Tech assistive tech devices: <ol style="list-style-type: none"> page turner pencil grip access to computer with math software (ie. IntelliMathics) alternate keyboard(ie. Intellikeys) Heightened desk to fit wheelchair under/use of laptray
Snack	Desk/tables in classroom	<ul style="list-style-type: none"> Access to device 	<ul style="list-style-type: none"> Position student at end of table and position device off to side
Specials: Music, art, and gym	Music room Art room gym	<ul style="list-style-type: none"> Participation Device safety Unable to use the device at times 	<ul style="list-style-type: none"> Some devices have preprogrammed songs or ways to program songs onto them. Plan ahead for days when the device cannot be used and have student take picture cards to <ol style="list-style-type: none"> Request help or to go to the bathroom choose colors/materials
Centers	Desk/tables in classroom	<ul style="list-style-type: none"> moving around the room manipulating materials 	<ul style="list-style-type: none"> Carrying strap for device Wider aisles between tables Peer buddy Use of classroom aide Great time to work one on one with aide/teacher
Getting ready to go home	classroom	<ul style="list-style-type: none"> Unable to tell family about the day and also homework 	<ul style="list-style-type: none"> Communication log checklist for parents

PHYSICAL ENVIRONMENT INVENTORY

ACTIVITY	LOCATION	POSSIBLE BARRIERS	STRATEGIES

Common Barriers with EASY solutions.....

- Remember that the assistive technology device is not just a therapy tool. It is the student's voice, hands, and/or self expression!!! So make it available at all times.
- The device breaks down, is not charged, or is forgotten at home
 1. **Designate someone to do a daily check at beginning of day including:**
 - ✓ turning on the device and checking the charge.
 - ✓ turning the volume up/down to appropriate level to be heard in the classroom
 - ✓ if the device is a dynamic display adjust the screen to reduce glare
 - ✓ place carrying strap on securely for easy transportation
 - ✓ use practiced question for circle time/reading as a way to check the volume

Attached is a checklist with PCS symbols to be laminated and placed on student's desk.

PLACE CHECKLIST IN AREA WHERE STUDENT CAN SEE IT USE PICTURE SYMBOLS SO THEY CAN EASILY REMEMBER AND LEARN TO DO INDEPENDENTLY

2. **Designate someone to be the technical troubleshooter preferably someone who is in the room every day (ie. Aide, teacher, office staff, high school helper)**
 - Tech support for most companies is very helpful. They will take you through the process one step at a time.

Attached is a tech support form to fill out with important information needed before the call is made.

3. **Provide low tech methods/strategies for days when the device is not available**



- Use picture cards
- Utilize yes/no questions
- Encourage gestures/pointing to objects or pictures

Cut out and laminate the device checklist to be used every morning. Attach to the student's workspace as a reminder.

Device Checklist

- ✓ Turn the device on.
- ✓ Turn the volume up/down so I can hear it
- ✓ I can see the screen
- ✓ Check my carrying strap
- ✓ Ask me a question so I can check if it works

fill out, cut, and laminate the following tech support cards. Place one in the binder for substitutes, one in the student's carrying case, and give one to the individual designated to be the technical trouble shooter.

Technical Support

Student's Name: _____

Device Name: _____

Vendor: _____

Phone # Technical Support: _____

Serial # (usually found on back of the device) _____

Roles and Responsibilities of the support TEAM.....

- Remember that one person doesn't do it all. A team approach is the most effective. Designating roles and responsibilities to all of those working with the student will alleviate unwanted stress. The following are suggestions:

❖ Classroom teacher:



1. assessing the physical environment of the classroom
2. identifying classroom vocabulary using communication inventory
3. adapting the curriculum
4. preparing and maintaining documentation
5. encouraging participation by the student during group activities
6. relaying information from team members to parents
7. assessing social capabilities
8. maintaining team meetings on a continuing basis

❖ Speech Language Pathologist



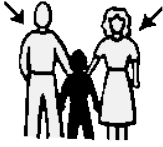
1. collaboration of treatment with classroom needs
2. identifying classroom vocabulary both social and curricular using communication inventory
3. provision of in-services to new staff
4. implementation of IEP goals
5. preparing and maintaining documentation
6. evaluation of intervention outcomes
7. assessing social capabilities and future needs
8. programming new vocabulary into the device
9. maintaining team meetings on a continuing basis

❖ Classroom Aide



1. programming new vocabulary into the device
2. identifying situations in which the student experiences communication breakdowns to report to team for help in devising strategies
3. identifying successes and useful strategies
4. facilitate the student's participation in a discrete manner (act more as classroom aide rather than an individual's aide.
5. maintaining team meetings on a continuing basis

❖ Parent/Guardian



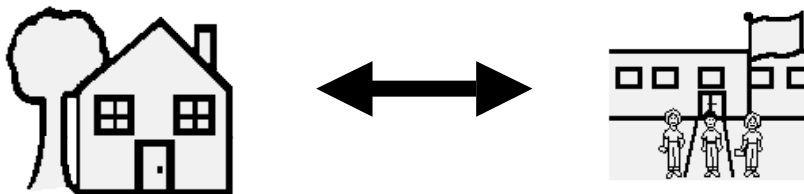
1. programming new vocabulary into the device
2. identifying situations in which the student experiences communication breakdowns to report to team for help in devising strategies
3. identifying successes and useful strategies
4. charging the student's device on a daily basis
5. carrying over strategies implemented at school at home (ie. reading weekly books at time)
6. maintaining team meetings on a continuing basis

- Substitute teacher

Keep copies of device in-services, brief description of how the student uses the device, the tech support card, and strategies in binder to be pulled out by sub

Communication from home to school.....

- Provide parents with the year list of books to be read so they can check the books out at their local library to use at home.
 - Establish a daily communication log/ checklist including:
 1. homework assignments
 2. reading book of the week
 3. question for the day
 4. programming needs (if parent is responsible for this)
 5. notes if device is not working properly (needs charged, called tech support, etc)
- *Attached is an example format to be used



Daily Communication Log

Student's name: _____ Date: _____

Homework: _____

Book of the week: _____

Next week's book: _____

Question for the day: _____

Programming needed: _____

Device needs charged

Called Tech Support: _____

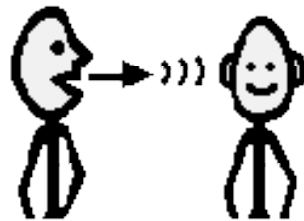
Could you attend a meeting on this date? _____

Comments: _____

Communication tips for the teacher, aide, and peer buddy.....

- provide appropriate wait time while the student is responding to questions or initiating comments
- be aware that the student's response may need some interpretation on part of the listener
- the student may initially need a cue to take out their device to engage in conversation
- initiate more open ended questions rather than yes/no
- instruct the student to repeat unclear messages
- make sure to end responses with a new question or comment that the student can respond to
- maintain eye contact with them as they are responding

**A good way to get peers to use these tips is through modeling*



Classroom Communication Inventory:

- **What can we learn from a Classroom Communication Inventory?**
 - Taking a look at the typical classroom activities provides valuable information that will assist the educational team when integrating the AAC system. Potential communication opportunities with an AAC system/device are directly related to the opportunities that exist for ALL students.
 - The Classroom Communication Inventory is conducted in three sections:
 - *Activities:* What activities occur in the classroom? Jot down a general description of the activity and specific requirements for all students.
 - *Types of Communication Opportunities:* Think carefully about the function of the communications that occur for all students and place a check by the type(s) of communication opportunities that occur during this activity.
 - *Conversation/Interaction:* These are likely unstructured opportunities to communicate with peers or adults within the classroom. Commenting may also be considered.
 - *Academic Participation:* These communications are the ones that occur within an educational activity. Typically, this involves specific vocabulary that is provided in response to a question or learning prompt that has been established by the teacher.
 - *Language/Literacy Learning:* These involve direct instructional tasks that facilitate learning in skills for reading and writing. Word study, spelling strategies, vocabulary development, word recognition, comprehension skills, and fluent reading may be considered here.
 - *The Basics - wants, needs, and routines:* These are the basic messages that occur throughout the daily classroom setting. It may involve a means to request help, ask to go to the restroom, or respond to regular occurrences.
 - *Vocabulary Required:* In order to communicate this type of communication function, within this particular activity, what vocabulary (letters, words, or sentences) is needed? Brainstorm and write down the possible vocabulary.
- *See the sample Classroom Inventory. Then complete the Inventory for your classroom setting.*

Activity	Types of Communication Opportunities for All Students	Vocabulary Required (based on what typical students are doing)
Lunch count: state type of lunch; white or chocolate milk	<input type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input checked="" type="checkbox"/> The Basics: wants/needs/routines	Packed/Eat here White/ chocolate
Pledge: class stands and says the pledge together; one person is leader for the week	<input type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input checked="" type="checkbox"/> The Basics: wants/needs/routines	Students recite all together.
Workshops: pegboards, puzzles, ditto pages, clay. Students rotate each station using a checklist sequence; independent work in small groups at table	<input checked="" type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input checked="" type="checkbox"/> The Basics: wants/needs/routines	Request help; ask for supplies from other students;
Circle time: at the rug area Weather; Count days on calendar; Date; Money, Count days of school left; Problem of the day: math skill	<input type="checkbox"/> Conversation/Interaction <input checked="" type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input type="checkbox"/> The Basics: wants/needs/routines	Name weather of the day Numbers for counting Date: month, day, year Math coins
Read a story: Big book each week; echo reading; choral reading; sentence starter with oral responses/write on chart	<input type="checkbox"/> Conversation/Interaction <input checked="" type="checkbox"/> Academic participation <input checked="" type="checkbox"/> Language/Literacy learning <input type="checkbox"/> The Basics: wants/needs/routines	Reading story in echo Respond to comprehension questions Predict ahead Fill in sentences: self generated Specific vocabulary from story
Phonemic Awareness activity with story vocabulary	<input type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input checked="" type="checkbox"/> Language/Literacy learning <input type="checkbox"/> The Basics: wants/needs/routines	Naming letters; naming sounds; making word families; manipulating word chunks
Seatwork: Follow up to story read; writing/drawing activity; share own picture/sentence with class	<input checked="" type="checkbox"/> Conversation/Interaction <input checked="" type="checkbox"/> Academic participation <input checked="" type="checkbox"/> Language/Literacy learning <input checked="" type="checkbox"/> The Basics: wants/needs/routines	Asking for help Tell a sentence about picture Comments on own picture or others

Communication Inventory

Activity	Types of Communication Opportunities for All Students	Vocabulary Required (based on what typical students are doing)
	<ul style="list-style-type: none"> <input type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input type="checkbox"/> The Basics: wants/needs/routines 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input type="checkbox"/> The Basics: wants/needs/routines 	
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	<ul style="list-style-type: none"> <input type="checkbox"/> Conversation/Interaction <input type="checkbox"/> Academic participation <input type="checkbox"/> Language/Literacy learning <input type="checkbox"/> The Basics: wants/needs/routines 	

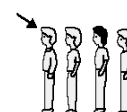
Now what?

- Based on the vocabulary identified in the Classroom Inventory, you should now have a pretty good idea of messages and vocabulary that will need to be currently available on the student's AAC system/device, and what vocabulary will need to be introduced as part of a lesson.
 - Remember: Vocabulary and message forms need to be systematically taught to the student.



Define Roles in AAC Facilitation

1. Identify vocabulary that can easily become part of the routine. (ie, attendance, line leader calling names, lunch count, etc) These vocabulary messages are best taught in the context that they occur. The classroom teacher and/or teaching assistant may assume responsibility for these message forms.
2. Co-planning: Yes, planning for the inclusion of AAC in the classroom will require time and deliberate planning. Coordination between the classroom teacher, special education intervention specialists, and the SLP will bring the best possibilities for success.
 - a. The classroom teacher plans the lesson.
 - b. Add a "planning strip" that can be added along side the regular lesson.
 - i. What vocabulary/messages will be needed for this activity?
 - ii. What pre-teaching must occur?
 - iii. Who will be responsible for pre-teaching?
 - iv. Who will facilitate during the activity?
 - v. During co-planning, discuss notes on results/concerns/ or suggestions for chance.
3. Pre-teaching is a strategy that helps the student recognize the vocabulary before entering the situation. This will likely be a one-on-one instructional period with the SLP or intervention specialist. The teaching assistant may also pre-teach vocabulary. (Since the SLP may only be in the building a few days per week, it is not always possible to have the SLP be responsible for all pre-teaching.)
4. Facilitation in lesson activities: part of the co-planning time should be spent on discussing who and how this will be facilitated. The teacher is "teaching"...and looking for responses. Can this be integrated as part of the lesson? Or will other staff be needed to facilitate?
5. Adding new vocabulary: Plan for the addition of custom vocabulary. Who? How will this be organized to flow with the rest of the vocabulary organization?

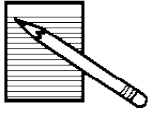


Co-Planning Lesson Plan

Vocabulary/message needs within this activity	Pre-teaching or facilitation/who will be responsible?	Comments/Results/considerations for modification

Ways to identify/plan messages and vocabulary:

○ Sentence-based messages



- Sentence-based messages are those which need to be communicated quickly and will get immediate response from the communication partner. "Can I go to the bathroom?" "I need help, please." "My pencil broke. Can I sharpen it?" These are examples of sentence-based messages that may have implications for the regular classroom.
- Comments may also be sentence-based. "That's cool." "Oh, gross!" Care should be taken in selecting and programming comments that are age appropriate and ones heard by typical peers. Listen to students for suggestions!!
- Sentence-based messages may often be more appropriately programmed with digitized (recorded) speech. Use an age appropriate peer to program these messages. (but not a child from the same classroom)
- *Caution!* Too many sentence-based messages will limit the student's understanding of language and the ability to create self-generated message forms.

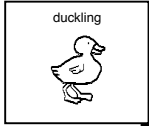
○ Phrases



- Phrases are "starters" that will be completed with a student's choice. "I like..." "I want..." "Can I have....?"
- Phrases are usually based on a situation where scripted conversation is useful. For a student who has potential to self-generate sentences, this is a keystroke reduction for a longer form that is available in the word-based vocabulary.

○ Words

- Words in an AAC system are the most powerful means for the student to self-create. However, words must be well planned into an organization system that allows for access. (memory of where the needed vocabulary is located.) Color coding and categorization are the two primary strategies that allow for retrieval of word based vocabulary.
 - Many AAC devices come with pre-programmed vocabulary packages. These can be very helpful in the vocabulary organization process.



- The tendency is to start a student with lots of “nouns”. However, nouns are not the most common words used by typical speaking children.
 - See the “list of starter vocabulary” by Gail VanTatenhove which looks at the top 100 words for speakers.

Think of teaching words in ways that they can be combined to generate a “sentence.” You may want to use this word list to help you think about how these words are used by other children within the classroom activities.

- **Text to speech**

- Text to Speech is the combining of letters to create a spoken word. (like spelling) Typing a word or sentence letter by letter is certainly a slower means of communicating. And of course it is dependent on the student’s ability to spell. Obviously, this is not an appropriate means of expressive communication for the young child, or one with significant cognitive delays. However, it can be integrated into many classroom literacy activities.
- Being able to type words opens doors down the road for words that are not pre-programmed into a communication device. For that reason, good literacy instruction, which is integrated with the AAC device, is a very important part of the curriculum for a student who used AAC.

ABC

Josh enters the classroom each day as the other students are circling around the teacher to tell some exciting thing they did the night before.

Today when Josh gets his Dynamyte out of his backpack, he takes it up to the teacher’s desk. Pushing a single button on the comments page, he announces, “Guess what I did last night.” (sentence based message). His teacher looks over and responds, “Well, Josh, I don’t know. What did you do last night?”

Josh quickly navigates to his core page and presses “I” “go”, then to the people page he presses “Grandma”. (word based vocabulary) His teacher responds again, “Oh, you went to Grandma’s house. What did you do there?” Josh navigates again on the Dynamyte and presses “eat” “popcorn”.....back to the comments page “That’s yummy in my tummy.”

His teacher says, “That does sound like a good snack.” She then moves on to another student who is seeking her attention. And Josh walks happily to his seat, Dynamyte in hand. Today, Josh had his chance to communicate too!!



Classroom Strategies:



□ Conversation/Interaction

○ What's a good question/bad question?

There is a tendency to ask the AAC user yes/no questions.

Sometimes this leads to the "20 question guessing game." Actually, many AAC users do have an unaided way to answer yes/no questions. (or should learn an effective way to do so!) Instead of yes/no questions, try to word conversational questions that lead to word and word combination responses. It helps to be familiar with the vocabulary that the student readily knows on the device, or that you can help lead them to using.

○ More than single word responses

- Accept single words...help to expand
- Accept other forms of communication.....help to expand
- Model on the device as a form of teaching

Megan came in from recess, holding her arm and looking sad. As she approached Miss Smith, her teacher, she verbalized sounds that could not be understood. Miss Smith said, (after noting that she did not seem to have any significant injury) "Let's get your Vantage so you can tell me what is wrong."

Megan pressed the button "hurt." Miss Smith replied, "Your arm hurts. How did that happen?" Megan made a face and another verbalization and pointed to her classmate Stephanie. "I don't understand," said Miss Smith. "What about Stephanie?" Megan pressed "ball." Miss Smith then replied, "Oh, when Stephanie threw the ball, it hurt your arm." Miss Smith gently rubs Megan's arm, assuring her that her arm was OK. Then Miss Smith went to the Vantage and said, "You were telling me... (modeling by pressing the sequence of buttons) 'the' 'ball' 'hurt' 'my' 'arm.'" Then pointing to the "Speak" button, Miss Smith said, " You can tell me what happened." Megan pressed the "speak" button and the sentence was repeated "The ball hurt my arm." "Yes," said Miss Smith. "the ball did hurt your arm, but you will be OK now." And Megan smiled and went back to sit with Stephanie.



This classroom example demonstrates how the teacher took a situation and built it into a language learning lesson. Miss Smith asked good questions that gave Megan a chance to express words. Then she expanded the words into a sentence that had good form. Megan knew the words "hurt" and "ball" and Miss Smith modeled additional words that would allow this to become an understandable message in a sentence format.

- **Avoid putting words in their mouth: “say milk” say ‘I want milk’**
 - The message that is communicated through a communication device IS a real expression. There is sometimes a tendency to request that the student also attempt to “speak” the word after communicating with a device. If typical speech is meant to emerge, it will! (Remember, speech is *easier* to do than a device!!) But requiring the student to “say the word” or phrase after communicating it on the device will send the unintentional message that “saying it on my communication device is not good enough...I still have to speak it...and I can't do that very well yet.”

What color crayon do you want?

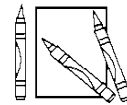
Ryan: (presses) “blue”; (says) “boo”

Teacher: No, say ‘blue.’

Ryan: (says) boo

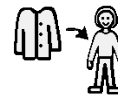
Teacher: No, that’s not right. Say...b b b blue.

Ryan: (thinking) Oh, never mind, I’ll just keep using this red crayon!



- **Setting up opportunities for conversation: sabotage**
 - Sabotaging a situation can sometimes set an opportunity to help the student to realize that he/she needs to be an effective communicator. Consider this situation.....

Betsy walks over to her teacher holding her coat. (with the zipper stuck) Her teacher says “Yes, that’s a nice coat.” Betsy pushes the coat towards her teacher. “Oh, you want me to wear your coat,” says the teacher. Betsy grabs her coat back. The teacher points to the Dynamyte that is lying nearby. “I need to understand what you are trying to tell me.” Betsy gets her device and presses the button, “I need help.” “Yes,” says the teacher. “Now I see that the zipper is stuck.”



- **Rituals: may be sentence-based; but many conversations need to allow for self generation**

Mrs. Jones says “Good Morning, Brad,” as he enters the room and gets out his communication device. No response from Brad. “Good morning,” repeats Mrs. Jones as he points to the device. Brad presses the buttons to say “Good morning.” Mrs. Jones continues, “How are you today?” Brad presses the buttons for “I’m fine.” Mrs. Jones asks, “Where is your sister? She usually comes with you.” Brad replies on his device, “Sissy” “sick”.



- **Messages/Reporting: sharing information between home and school**
 - For some students, starting with a single button for sentence based messages between home and school can be powerful. Reserve one button for "school messages" and one for "home messages."



- Near the end of the school day, spend a few minutes with the student to develop the topic of the "school message". You may want to use alternate picture boards to develop the topic. For example, a picture schedule of the day may be used as you ask, "What do you want to tell Mom about school today?" As the student points to an activity, develop and verbalize a sentence. (ie, We went to gym class today.)
- Program the message on the button.
- Continue with an expansion of the first sentence. What can we tell Mom that you did in gym class? (Student give message in some form, and teacher programs this after the first sentence.)
- Continue with a comment: Did you have fun?

*Jeremy goes home and Mom says "How was your school day?" Jeremy gets out his DynaMyte and presses the "school message" button.
"I went to gym class today. We played kickball. It was really fun."*



- **Tips for Messages:**
 - Make sure you program in the first person so it speaks as if the child is saying it.
 - Involve the student in the process of selecting messages that are to be programmed.
 - Teach the family how to program on the "home message" so they can return a message the next day.



□ **Academic participation**

○ **Define the curriculum vocabulary:**

Content area vocabulary will fall into one of three groups:



- **Core vocabulary:** This is the basic vocabulary that is used in multiple environments and is the majority of the words that are used in conversation. (Refer to the Starter and Core lists compiled by Gail VanTatenhove) When looking at the content areas, this is not always "apparent" vocabulary. But the team should think about core words that apply to the activities within a content topic.
- **Fringe Vocabulary:** These are words that are used with the core vocabulary that help to help convey expanded meaning. These may also be referred to "keepers" when looking at a content topic. These are words that once learned, will likely have further use in the student's life. Fringe vocabulary usually fits into a category that already exists in the device organization.
- **Subject-Specific:** These words are ones that are used within the content being learned, but may not have long range use for the student in general conversation. These might also be called "throw-aways." They may be included on the student's device on a temporary basis, or added to the student's "system" and a picture board/strip.




Consider this vocabulary that is related to a First Grade unit on Plants. Which words do you think will be Core? Fringe? Subject Specific?

Plant	grow	green	need
Sun	seed	in	water
Rain	put	to	light
Dirt	soil	roots	stem
Leaves	different	wet	food

- **Categorizing vocabulary**

- Depending on the organization system on the student's device, vocabulary may be categorized by "parts of speech" and/or category page. For example the word "green" is an adjective or a descriptor, yet it belongs to a category of "color words." Parts of speech are often defined by a colored background to a key space or message button. Words in a category are generally located along side of other words in that category and may be included on a page, a pop up, or an activity row. It's important to know the organizational system for your student's device.
- Here is another vocabulary brainstorming strategy that may be helpful when defining academic content vocabulary:

Topic: Math		
Adjectives: more, less	Conjunctions: and	
Pronouns:	Prepositions:	
Nouns: 1, 2, 3, 4, 5	Questions: How many	
Verbs: add, count	Phrases: I have, I need	
Others:		

- Locate content area vocabulary that is already on the student's device.
- What vocabulary needs to be added to the device? Where should this new vocabulary be located?
- What vocabulary does the student already know? What needs to be taught?
- Is this vocabulary only needed for a short time during this topic, or should it become a part of the total communication system?
- Are there multiple ways that this vocabulary can be used to expand the student's use and understanding?
- Can this vocabulary be taught within sentence creation activities?

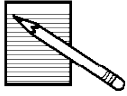
○ **Plan for Teaching /Pre-teaching**

- How will this student best learn the vocabulary related to the content? Can it be integrated as part of the activities that occur in the classroom? Or will it be necessary to pre-teach these words?
- Plan for use of the vocabulary. How will this be integrated in the classroom activity? Will facilitation be necessary from the Intervention Specialist or other staff member? What expectations will there be for the student to use this in the classroom activity? With prompts? Independently? Single words? Within sentence or phrase formats?
- Carryover within the classroom lesson - In discussion periods where students are responding to questions, it may be helpful to plan ahead for the specific question that will be asked of the student. That way this can be practiced ahead of time, or the teaching assistant can be prepared to help cue the student for his/her response. In this strategy, the teacher needs to be aware of the vocabulary the student will learn/know, and the teaching assistant must be aware of the location of the needed vocabulary on the device.
- In as many instances as possible, find ways to encourage the student to make responses that will incorporate more than a single word. Remember, when the student is just beginning to learn the language, it is acceptable for word combinations that are not grammatically correct. (Modeling may occur to expand the sentence structure.)

In a co-planning meeting, Michael's team discussed the upcoming unit on plants in the classroom. They used a planning guide to determine the key vocabulary that would be needed for this unit. Mrs. Banks, the SLP, outlined the vocabulary that was already on the device and which words Michael knew. She then wrote a Plants story that used many of the words from the unit plus his core vocabulary. During Speech time, Michael practiced this story and learned the location of the vocabulary words. Michael also took the story home to read to his mom. Mrs. Reed, the Intervention Specialist, found out the activities that would occur in the classroom related to Plants. She met with the Teaching Assistant in the classroom to make her aware of ways and word that Michael could participate through communication. Mrs. Reed also scheduled time when she would be in the classroom so it coincided with the "teaching moments" that she felt she could best facilitate. Because Mrs. Thomas, the teacher, was also aware of the vocabulary that Michael had on his device, she found ways to encourage responses from Michael along with the other students. By the time this lesson was completed most of the peers were also jumping in and helping Michael with his vocabulary!



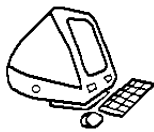
- **What about Written Communication:** what tool should the student use? Many students who experience motor speech difficulties and use an AAC device will also have problems with the motor task for writing. In addition, writing relies heavily on the language system of the child, which is likely a concern for your AAC user.



- **Paper/Pencil:** To the maximum extent possible, the student should be encouraged and instructed on typical writing approaches. Look carefully at the student's word products and assess whether the problems are "motor" based or "language" based.

- There are some writing tasks that are not easily transferred into technology options. Drawing a circle around the correct word, underlining a selected response, and writing numbers are tasks that can best be completed through a typical writing process.

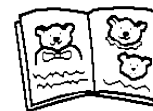
- **Computer typing** is also an alternative for writing. In the young grades, just getting familiar with the location of the keys on the keyboard is a great learning activity for all students. All students may practice typing spelling words for the week. Or type own name and names of classmates, or special word wall words.



- Students below the third/fourth grade do not have motor proficiency or the word/decoding skill knowledge to learn keyboarding skills. Single digit typing is acceptable for this age.

- **AAC Interfacing** is another possibility with many higher level communication devices. (such as the Vantage and Dynamyte) When a device is connected to the computer, the student is able to use the picture/graphic overlay that is associated with the device and produce the words or sentences that are programmed on the device. For a student who uses AAC and is struggling with the sound/letter decoding part of language, this might be an option to consider.

In some instances, the student who uses AAC may be able to use the communicative parts of the device instead of performing a motor task that is difficult. (a form of dictation)



□ Language/Literacy Learning

Many factors related to language/literacy learning have already been discussed in other areas. That's because language and literacy ARE an integral part of all educational activities. The structured language/literacy activities of the class day are conducive to the AAC device learning that the student user requires. Yet in many instances, this may see like the most challenging for the teacher. Remember, because language activities appear to be the most difficult for the student is not a reason to "remove" the student from the activity. First consider the adaptations that will enable the student to participate, even if it means that the student is doing a task that appears to be "different." The AAC user will not become proficient in the literacy areas without the opportunity to engage in language/literacy instructional activities.

○ Familiarize yourself with the vocabulary/language organization of the AAC device.

- Different AAC devices are organized in different ways to accommodate the learning ability of the student. These are some questions to ask as you examine the vocabulary organization of your student's device:
 - Does the device have a pre-programmed vocabulary set up?
 - Is the vocabulary based primarily on sentences or words?
 - Is there a "core" vocabulary that is available at the "top" level of the device? Are many of the words in the core vocabulary similar to the high frequency words that will be taught? Are many of the word ones that you will have on a classroom Word Wall?
 - Are other vocabulary words organized in categories with like words (ie., colors, food items, animals, action verbs)?
 - Are words marked by the parts of speech? Is there a color coding system that identifies pronouns, verbs, prepositions, etc.?
- **Grammatical forms of words or categories**
 - Help the student learn these organization features of the device as you teach new words. For example, the a new vocabulary word is "run," talk out the organization system that will help them learn the location.



Run: that's an action or a verb. It is on a green key because it is a word that tells something we can do.

Run: that's an action word that is on the fun page. You like to run at recess.

- Most higher level devices will have an alphabet page. These are typically set up for text-to-speech, meaning that if they sequence a set of letters it will say a word. Minor adjustments can be made for various activities in the classroom early literacy learning activities:

ABC

1. Letter naming: to name or state a letter name from the alphabet page, the student may need to learn to press the letter, followed by the "speak" button or a space after the letter.
2. Text to speech: combining letters and then selecting the "speak" or "space" button will allow the student to say a word. This is a great learning activity for students within word study activities where students are asked to create their own words from word family combinations.
3. Sounds of letters: producing the "sound" of a letter on an AAC device is more challenging. If the student has some speech potential, it may be a good time to talk to the SLP about what expectations the student has to say speech sounds in isolation or CV /CVC combinations.
4. Manual Alphabet board (a grid with the letters of the alphabet printed on) is also an acceptable way to encourage your AAC user to learn about letters and sounds. (What letter/sound do we hear at the beginning of the word "boat". The student will point to the letter "b.")

Remember that the student who uses AAC already has difficulty producing speech sounds. This internal feedback is "not up to par" so it will logically follow that learning letter and sound associations, combining sounds to make words, completing phonics worksheets, etc. will likely have some direct impacts on the student's ability to perform these tasks. Look for ways to adapt so that learning still occurs, but may be in a different way.

- Word chunks
 - A page may be created that links from the alphabet page to create word family chunks (ie., at, en, in, ot) as these words are introduced and taught.

- **Vocabulary Development**

- Make decisions about the words from a vocabulary list that are important to learn.
 - Is this word a high frequency word that will be used often in reading?
 - Is this a core word that will be useful in conversational speech?
 - Is this a word that will reoccur in lessons and activities?



Benji Bear is a character that is read in several stories in the first grade books. The class also has a Benji Bear that they use in other activities. The team decided that Benji Bear needed to be programmed on the AAC device. Polly Parrot is only introduced in one story. The team decided to create a manual story page with a scanned picture of Polly. Polly's name will not be programmed on the device.

- With reading vocabulary words that are taught to the student, look for additional opportunities that these words can be used. If this is a word that will **ONLY** be used in the story for the week, then it is likely a "throw away" that can be easily put on a manual board/page for this time.
- Use co-planning strategies to make determinations on what vocabulary to teach, how to teach, and extension activities that will give the student ways to "own" this word for other applications.



- **Reading connected words in books**

For obvious reasons, the student who uses AAC will have a difficult time quickly being a "fluent" reader. The student is learning vocabulary on the AAC device, as well as learning to recognize print words. Selecting words on the device is a slower process than naturally speaking the words. Text within a reading book may also have a variety of grammatic structures that the AAC user is not yet familiar with. (I know how to say "go" but now we have the words "going" and "went".)

- Guided reading instruction where the student is able to participate with other students will be beneficial. Listening to others read, or choral readings, will give the student a means to hear fluent reading patterns "in his/her head."

- Text with repetitive and predictable lines are good materials for students who use AAC. A repetitive line may be programmed, or this can be a line that the student can easily create and repeat. (ie, Brown Bear, Brown Bear, *What do you see?*) Predictable lines have a variation in one part of the vocabulary, but the majority of the sentence is repeated page after page. (Boys walk. Girls walk. Dogs walk.)
 - Know the sentence structures that the student knows or is learning to use on the AAC device. The SLP can be helpful in identifying the grammatic language forms that the AAC user can be expected to use on the device.
 - Book reading with more complex sentence structures may be "pared down" to give the student who uses AAC a more beneficial way to practice reading and speaking. Re-write the story page on post it notes or index cards. These can be attached to the real page for the student to "read aloud."



- **Vocabulary Checks when Reading.**
 - Don't assume that because the student is unable to read the words aloud, that he/she cannot *read*.
 - Build in strategies that encourage the student to follow along as others read. Ask questions that allow the student to demonstrate word recognition in alternate ways. For example:
 - What word on this a page tells us how Jan felt.
 - Point to a word that tells us where Jan went with her friend.
 - Find a word on your device that tells us what this word is (point to "go").
- **Comprehension tool!**
 - Determining the student's comprehension of reading may also require some alternative strategies. The student may be asked to point to words in the text as with vocabulary strategies. Plan carefully the questions that are asked so that you are sure the student has learned the needed vocabulary on the device to give a response. (did the student not answer that question because he/she did not know the answer? Or because he/she did not have the "words" to tell you?)

- Accept responses provided on the device in less than “perfect grammar forms.” Encourage responses that will require word combinations. But don’t penalize the student if the sentence is incorrectly formulated. This is a teaching moment!

After reading a page, the teacher asked, “What do you think will happen next?” Josh uses his device and says, “boy” “hide.” That teacher responds, “Josh thinks...(modeling on the device) “the” “boy” “will” “hide.” Let’s read on and find out if he does hide.”



○ **Spelling tests:**

- If the student has good fine motor skills for writing, he or she may take a spelling test in a manner similar to other students. But remember using the text to speech features of the device are important skills for the student to learn also.
 - Typical student: can read the word, can say the word, can write the word.
 - AAC user: can read the word, can write the word, can spell the word on text to speech, and say the word from the vocabulary on the device.
 - Consider the variety of learning needs of the student who uses AAC and adjust the spelling tasks and requirements to the modes that will benefit the student the most!
- Remember, the AAC device may be able to interface with a computer for another way of “writing” spelling words.



□ **The Basics: wants/needs/routines**

We’re back to the basics! Don’t forget those routine comments and requests that occur naturally in the classroom. What sorts of things are other students saying and asking? Does the student who uses AAC have a way to participate in these communication opportunities. Many of these routines are the communications that build on socialization. And developing friendships is important to the student who uses AAC too!

- Sentence based messages may be programmed that need to be produced rapidly in classroom routines.
 - Going to the bathroom!
 - Things that typical kids say, ie. I don’t feel good!



- What routine comments are made or need to be stated with in classroom activities: ie., during centers, when finishing work, asking to sharpen pencils
- Providing choices is often a way to get communication going! Do you want a blue or red paper to make your storybook? Do you want white or chocolate milk for your snack?



Final thoughts:

Including a student who uses an AAC device in your classroom is a challenge. And yes, it will require additional planning and preparation. Not to sound like a cliché, but the rewards can certainly outweigh the trying moments. This is one time when you as the classroom teacher can truly ***make a difference*** in a child's life. Good luck!