

Augmentative and Alternative Communication Evaluation Report

Demographic Information

Name:

Date of Birth:

Address:

Telephone:

Medical Diagnosis:

Speech/Language Diagnosis:

Medical Access #:

Physician:

Contact Person:

Date of Evaluation: Ongoing from May 2015-August 28, 2015

Date of Report:

Speech/Language Pathologist:

Pennsylvania License #:

ASHA #:

Background/Medical Information

An augmentative and alternative communication (AAC) device evaluation was conducted with Client from May 2015 to the present for the purpose of determining whether and which AAC system was the most appropriate for him based on his physical, speech/language, and cognitive skills. Client was recommended for an AAC evaluation due to having cerebral palsy and having difficulty communicating independently in community, medical, and group settings as a result of breath support, volume, and motor planning difficulties associated with cerebral palsy. Formal and informal assessments were conducted to determine Client's current skills levels. Client was presented with several device trials to determine which features/speech generating device would best meet his needs.

Client is a ... who has some verbal abilities. Client was born at ... gestation and was in the NICU for ... days. At the time of birth, Client was diagnosed with pharyngeal and laryngeal malacia. He was intubated for the first 3 months of his life. Due to the intubation, Client has a permanent, large indent on the roof of his mouth. Client was on oxygen for the first year of life. In date, a G-tube was inserted for feedings due to acid reflux as well as Client having a weak suck reflex. Client's G-tube is still in place but mainly used for water and for nutrition when Client is sick. Client received vital stimulation on his throat muscles for several months within his first year of life to encourage a stronger suck, assistance with swallowing, and stimulation of muscles needed for speech. At the age of ... months, Client received a diagnosis of cerebral palsy. Client is currently followed by the feeding clinic in Hershey, a pulmonologist, neurologist, GI doctor, and nephrologist. Last September, he was further diagnosed as having sleep apnea. Client is scheduled to have his tonsils and adenoids removed.

Client received early intervention physical therapy, occupational therapy, special instruction, and speech/language therapy services. Around 2 years 6 months, Client began to develop some verbal abilities and currently has a verbal repertoire of at least 500 words. Client is able to combine words together but demonstrates with reduced volume, difficulty speaking in longer phrases and sentences, and difficulty with motor planning for longer words/phrases making it challenging for him to communicate effectively across settings without parental support. Client continues to receive all therapies listed above and will be attending a preschool program along with typically developing peers for 3 days in the fall. While Client's speech capabilities are expected to continue to grow, his prognosis for independent speech production to allow him to effectively gain attention, communicate medical information without support from others, share information in community and eventually work settings, and communicate across distances are limited due to the symptomology associated with cerebral palsy. Client is not on any medications that would prevent him from successfully using an AAC device. Family is supportive of Client's use of an AAC device and believes he would benefit from an augmentative and alternative communication system to communicate with family, physicians, community workers, and peers.

Current Communication Skills

Speech/Language and Educational History:

Client received special instruction services through agency to address cognitive, play, early language, and fine motor skills from the time he was 5-6 months old. Shortly before his 2nd birthday, Client began speech/language therapy services through the agency. Client had a repertoire of 2 words (dada, baba) at the time speech/language therapy services commenced. Picture supports in the form of digital photos and picture communication boards were introduced to assist Client in developing language understanding as well as to provide a medium for him to make choices. Client began to indicate preferences through some of these picture supports by reaching for or touching the picture that represented his desired choice. Models were also given

by the therapist touching pictures that represented the activities in which Client was currently participating. A single-message voice-output communication system (Big Mack) was also utilized to provide Client a means to gain attention, participate in repetitive lines of songs and books, and to communicate highly preferred messages ("go" to make a car go). After a short period of time, Client was able to use his hand to activate the Big Mack to fill in a repetitive line of a song with accurate timing. The Sounding Board app on the family's iPad was introduced to provide Client access to voice-output for a greater variety of choices, including food and drink options, song requests, toys, and locations. Client had previously demonstrated the ability to swipe the main screen and locate different apps to play games. With Sounding Board, Client was able to successfully navigate to the app, locate a desired board, and navigate three more steps to request preferred items (up to 8 buttons on a screen) with his fingers. He could further oscillate back-and-forth between the Sounding Board app and the Big Mack switch to make choices and participate in repetitive lines of songs (such as choosing the animals for Old McDonald and then pressing the Big Mack to sing E-I-E-I-O). The Sounding Board app, however, could only accommodate a limited number of choices per screen, resulting in a reduced number of vocabulary options without navigating through many pages to find the vocabulary. Client also demonstrated greater difficulty when more than 8 icons were on a page due to fine motor difficulties associated with cerebral palsy. It was believed that Client would benefit from a keyguard and a device that allowed for much greater vocabulary and language capabilities. At the age of three, Client's early intervention services were transitioned to the Capital Area Intermediate Unit (CAIU). Client's verbal abilities began to expand enough that they were his primary form of communication around the age of three.

Expressive Language Abilities:

Client's primary form of communication is speech. He additionally uses gestures (pointing), vocalizations (whining, laughing), and eyegaze (looking at what he wants) to supplement understanding when his message is not understood. With these forms of communication, Client can communicate greetings, closings, requests, refutes, comments, labels, social etiquette (please, thank you), answers to basic questions, and ask a few questions. He further can gain attention when in close proximity to his communication partner in a quiet setting. Client can use up to 3-4 words in short phrases/sentences. Due to breath support issues, Client is unable to speak in more than 4 short words at a time. He further presents with reduced volume, in which his speech can be difficult to be heard when competing noise sources (TV, siblings, appliances, etc.) are in the room. For familiar listeners, Client's speech is intelligible approximately 90% of the time with context. Familiar listeners note that it is more difficult to understand Client when he tries to speak in sentences, as his words seem to get disorganized and have reduced intelligibility. His speech intelligibility reduces to 50-60% in a quiet environment for less familiar listeners when the context is known and he is speaking in single words and short phrases.

In the home setting, family notes that communication breakdowns occur a few times a week. Client expresses frustration through yelling, putting his head down, crying, pulling mom's hair, pinching, and scratching when he is unable to effectively communicate his intended message. As Client's vocabulary continues to increase and he has more complex and extended ideas/thought processes, his ability to effectively communicate his messages with all listeners through speech is reduced.

Receptive Language Abilities:

On date, the Receptive One-Word Picture Vocabulary Test was administered to Client to provide a formal documentation of Client's receptive vocabulary skills. Client was 3 years, 6 months old at the date of testing. Client participated readily at the beginning of the assessment but lost interest as the assessment progressed. He refused to participate after approximately 7-8 minutes. From the information obtained, Client had a raw score of 26 which translated to a standard score of 82. Due to frequent medical appointments and illnesses, Client's early childhood experiences were slightly different than typically developing children. Some of the slight delays in Client's receptive vocabulary skills may be due to his reduced attention for the assessment or these differences in early childhood experiences.

Further receptive language assessment was conducted through the Preschool Language Scales 5th Edition on June 6, 2015 and June 22, 2015. Client did not want to attend to the assessments so attempts were made to complete the assessment on two separate occasions. Ceiling levels were still never reached due to Client's resistance to complete test items. From the information obtained, Client obtained a raw score of 28 on the auditory comprehension portion of the assessment. This score equals a standard score of 72. Client is believed to have the ability to correctly complete some of the items missed when his attention and desire is present.

Cognitive Abilities:

Information collected from Client's Special Instructor - On date, the Battelle Developmental Inventory, 2nd edition was administered to assess Client's cognitive development to update and reflect current present level skills. Protocols were administered in a standardized manner. Subtests included attention and memory, reasoning skills, and concept knowledge. In the area of Attention and Memory, Client will attend to one activity for 3 or more minutes, attend to a learning task for more than 5 minutes, recite memorized lines (parent reports he will repeat things from his iPad), and at times can focus his attention on one task without being distracted by surrounding activities (parent reports that Client can be easily distracted, he likes to watch what others are doing). During testing, Client demonstrated the following skills: found an object hidden under one of two cups, selected the hand hiding a toy, and located 4 out of 6 hidden items in a picture scene.

In the area of Reasoning and Academic Skills, Client shows interest and enjoyment in age-appropriate books and printed material and finds comical, unexpected, or unusual events

humorous. During testing, Client demonstrated the following skills: pulled a cloth to obtain an object, nested objects inside one another (nesting cups), matched colors (red, green, blue, yellow), responded to the direction "clap your hands one time," and named colors (red, green, blue). Client was unable to follow the direction "clap your hands one more time," identify sources of common actions ("What flies?", "What barks?", "What sleeps?"), or give three objects on request.

In the area of Perception and Concepts, Client demonstrated the following skills during testing: placed a circle and square in a form board, matched shapes (circle, square, triangle), identified two out of three objects by their use (cup and ball, but not shoe), sorted by color with demonstration, identified big and little shapes, sorted shapes into one out of three sizes, sorted forms by shape (square, circle, rectangle), and identified one out of two colors of familiar objects not in view. Client was unable to identify the longer of two strips or recognize visual differences among similar objects.

A delay to be considered for eligibility is a standard deviation of -1.5 or more. Overall, in the cognitive development domain, Client is not displaying a delay. He scored a standard deviation of -0.67. At this time, Client is not displaying a need in cognitive development.

Independent Living/Work History:

Although Client is too young to participate in independent living or work activities, Client demonstrates the cognitive potential to participate in general education curriculum with modifications and supports for writing access and verbal output support. It is believed that if Client is provided appropriate supports throughout his schooling, he will readily be a part of work and independent living opportunities once he is of age.

Functional Communication Needs:

Client needs to be able to communicate with his family, medical personnel, school staff, community workers, and his peers on a regular basis. While Client is still young, he will have increasingly more responsibility to communicate medical needs, indicate areas of pain, and share information about his care as he gets older. Client's verbal abilities enable him to share basic, short information in quiet environments. As Client's environments change (beginning preschool, participating in activities outside of the home), he will less frequently be in environments quiet enough to allow his verbal speech to be a sufficient communication mode. He needs to learn a regular and reliable system of communication while he is young to enable him to successfully meet these needs as he ages. Client would strongly benefit from an augmentative communication device in which he would not need to rely on situational-specific environments to communicate successfully across individuals. For an augmentative communication system to be effective for Client, it needs to provide Client generative language capabilities, the ability to communicate messages across space and with sufficient volume, and the ability for continually expanding vocabulary options. Specifically, Client's communication needs include:

1. Sharing basic wants and needs without the assistance of others
2. Communicating pain, feelings, and concerns
3. Gaining attention across space, in noisy environments, and possibly over the phone
4. Sharing information in emergency situations, particularly with non-family members
5. Responding to questions from family, medical personnel, school staff, peers, and community workers
6. Protesting when frustrated or upset
7. Requesting help or assistance with various tasks
8. Asking questions to gain medical information, assurance, and understanding of daily life activities
9. Participating in educational and leisure activities

Additional AAC-related skills

Sensory/Perceptual Skills: Client does not demonstrate hearing or vision deficits. Client's hearing and vision abilities are not believed to impact which device might be an appropriate match for him.

Fine Motor Skills:

Client demonstrates reduced fine motor control in both hands. During device trials, Client utilized a combination of both hands and multiple fingers, including thumbs, pointer fingers, and middle fingers, to access the devices. To reduce mishits, Client would at times stabilize his arms on the floor or tray and, at times, hold the top or side of the device screen so he could hit the appropriate buttons with his thumbs. Client typically demonstrates increased strength and control with his right hand. It was noted that Client demonstrated fewer mishits when asked to hit a button sequence himself then when his hand was guided to different buttons on the screen. It seemed that Client would compensate for his reduced fine motor skills by problem-solving how to best support his hands and which hand to use when allowed to hit the sequence himself that allowed for a more accurate ability to hit correct buttons. Client requires the use of a keyguard to prevent mishits. He has demonstrated the ability to effectively rest his hand on the keyguard and use his pointer or middle finger to access his desired button. With the support of a keyguard, Client can adapt his fine motor capabilities to successfully activate a communication device with his hands and fingers.

Gross Motor Skills:

Client demonstrates spasticity in his arms and legs. He ambulates through crawling and rolling. He does not currently have the ability to independently walk. Client has a wheelchair that family uses to transport Client both in and out of the house. He is expected to use this wheelchair when he is at preschool in the fall as well as for other community visits. At home, Client uses his wheelchair to participate in meals and play activities. Client has reduced balance and muscle control which prevents Client from being able to independently transport a device. To support

Client's communication needs, a device will need to be mounted to Client's wheelchair as well as have a handle which Client can use to adjust the positioning when on a tray or table.

Oral Motor Skills:

While Client has made significant gains in his verbal abilities, Client demonstrates reduced muscle control related to breath support and coordinating his articulators for longer articulation sequences. Client is unable to produce speech at a significant volume or speak in phrases over 4 words in length. Due to his diagnosis of cerebral palsy, his prognosis for independent speech production to gain attention, communicate emergency/medical information, and gain skills in order to participate in work and independent living opportunities as he ages is limited.

Reading/Writing Skills:

Client does not currently read or write. He demonstrates emerging literacy skills, however, in that he can label and find all the letters of the alphabet. When asked, he can provide letter/sound correspondence for the majority of letters. Client has begun to spell his and his brother's names. Based on his cognitive and current letter/sound abilities, Client is expected to learn how to read and participate in the general education curriculum once entering school. Client will require a pictorial-based language system on a communication device to support his current language and word understanding.

Client holds pencils and crayons in a fist grasp with his thumb on top. Parents note that Client has more control for shorter writing utensils as Client typically grips the utensil at the top and thus has less control when the utensil is longer. At the current time, Client scribbles when provided a crayon or pencil. He is unable to form letters or numbers independently but can make dots in a shape and draw a line from point A to point B. Client is expected to need assistive technology to support his writing abilities due to reduced control of fine motor skills. It would be helpful if Client's augmentative and alternative communication device could couple as a device to support Client's future writing needs.

System Features: Based on Client's physical and communication needs/skills, he requires an augmentative communication system that:

1. Promotes independent, generative, and interactive communication
2. Provides a pictorial-based language system that is efficient and easy to access
3. Allows for growth capabilities, including adding personalized vocabulary
4. Has voice output with significant enough volume to gain attention, communicate across space, and provide normalized interaction across environments, including over the phone
5. Is able to be used in case of emergencies
6. Employs a keyguard in order to prevent mishits and support Client's fine motor capabilities
7. Is durable and able to tolerate normal wear and tear

8. Has sufficient battery capacity to run for the majority of the day without the need to charge the battery
9. Employs writing supports, including word prediction, abbreviation expansion, and use of the device's language system for writing, to prevent the need for future assistive technology to support Client's writing needs
10. Has mounting capabilities to ensure easy access and transportation of the device
11. Has a handle that can be used to easily adjust the device when off its mounting system

Without these features, it is unlikely that a speech generating device will meet Client's functional communication needs as stated previously.

Device Trials, Recommendation, and Rationale

Trials of augmentative communication systems were conducted utilizing picture communication symbols, a Big Mack switch, an iPad with Sounding Board communication app, an Accent 800, and an Accent 1000. All of the trials lasted a minimum of 4 weeks with several trials lasting longer. Data was collected from each trial and the following results were obtained.

Picture communication symbols of toys, songs, actions, and some comments were trialed first with Client as they were easily accessible and could be adapted to Client's immediate environment (pictures of Client's toys were used as the symbols, when possible). Client readily learned the symbols and used them to make choices, request, and protest (by pushing symbols away). As Client's language has grown, the concepts that he might want to convey cannot be anticipated enough to make symbols for all the concepts. Client's language has also grown at an exponential rate, making it near impossible to have enough symbols in an organized and manageable system to allow Client to communicate his extent of thoughts and ideas. Client requires a communication system that is generative in nature, allows for significant vocabulary expansion, and provides voice output so Client can gain attention/communicate thoughts across space.

A Big Mack switch was then introduced as a means for Client to gain attention, participate in repetitive lines of songs/books, make highly-preferred requests, and comment on activities. As noted previously, Client was able to use the Big Mack switch effectively with appropriate timing in a variety of situations (gaining attention, making requests – saying “go” when his motorized car would stop, saying the repetitive lines of songs with appropriate timing, etc.). The Big Mack switch, however, did not provide a means for Client to share novel information or vary the message he could convey.

The Sounding Board app on the iPad was then presented to provide Client with a greater number of communication opportunities as well as voice output. Client would initiate communication on the app by navigating away from other apps, into Sounding Board, and through a minimum of three separate pages to make requests when the therapist entered his home. Family reported Client making food choices and requesting activities independently with this app as well. Client

could readily find and use a minimum of 20 symbols on the Sounding Board app independently. As Client is believed to be able to participate in general education and eventually workplace opportunities, the Sounding Board app still did not provide enough generative capacity or a large enough framework in which Client could build language/vocabulary skills that will support him in communication opportunities for the rest of his life. Client needs a vocabulary system with many vocabulary options, the ability to communicate these options quickly, and the ability to communicate across space and in louder environments. The team believed that the language system of the PRC Accent devices was the device that most readily met these needs.

An Accent 800 was initially trialed with Client. After showing Client how to find a preferred symbol (the cow, a 3-hit button sequence) two times, Client problem-solved how to use both of his hands to effectively hit the button sequence. Client stabilized his left hand on his tray to hit a button on the left hand side of the screen, then held the top of the screen and dangled his thumb down to hit the next two buttons that were near the top of the device. He demonstrated this sequence without further models from the therapist at his next therapy session two weeks later. Client has retained sequences, including “I, want, have, cow, horse, sheep, and more” with minimal teaching repetitions. In this device trial, the team noted that a keyguard and slightly larger buttons would benefit Client accurately hitting his desired buttons on the first try. As the PRC language system is built off of button sequences, accurate hits are of utmost importance to prevent long time lapses for Client to portray his messages.

Client has had a trial of an Accent 1000 with a keyguard since May 2015. He is able to utilize the device to create the carrier phrases “I want” and “I have”, label and request farm animals (a highly preferred activity), and make color requests (with minimal support). Client remembers sequences that he has used multiple times over several sessions and will activate them independently to make requests. Client has further demonstrated device skills, such as hitting the message bar to speak his entire message and, with reminders, clearing his previous message before starting a new message. Client learns new message sequences quickly and retains them. Client effectively uses the keyguard of the device by resting his hand on the keyguard as a support and then utilizing one finger to press his desired button. As the Accent 1000 has mounting capabilities, a handle, generative language based on picture supports, the ability for increasing volume to communicate across space and on the phone, and Client has demonstrated the ability to learn/retain button sequences for words and phrases in a time-efficient manner, it is believed that the Accent 1000 provides the necessary features to be an effective augmentative communication system for Client.

Recommended Individual Action Plan

Client requires a device that has a large amount of vocabulary, is generative in nature, has volume controls to be heard in a crowd and across space, employs a keyguard, has mounting capabilities, and employs picture and writing-based supports. From these features and the trials conducted, the Accent 1000 is recommended as the best fit to meet Client's communication

needs. Client's family is supportive of the purchase of this device and willing to receive training in how to effectively use the device with Client. As Client is young and still learning many language elements, a minimum of 4-6 months of weekly speech-language therapy is recommended to teach Client and his family how to use the augmentative communication system across settings. The following is an individual therapy plan for Client's use of the Accent 1000.

Functional Communication Goals:

Short-Term Goals (to be achieved after 2 months of training/support):

- Client will demonstrate competence in utilizing system features of the device, including turning the device on, clearing the screen once a message has been portrayed, and using the "go back" button when a mishit has been made.
- Client will utilize the device to make a minimum of 20 different requests within the home and/or community environments.

Long-Term Goals (to be achieved after 3-6 months of therapy/support):

- Client will utilize the device to repair communication breakdowns with family, teachers, or other community workers with no more than one cue in 50% of the opportunities provided.
- Client will utilize the device to create phrases to request, protest, or share information in 70% of the opportunities provided.

Plan for Individualization, Programming, and Training of the System:

This speech therapist, Client's speech therapist through the Capital Area Intermediate Unit, consultants from the Capital Area Intermediate Unit, and the local Prentke Romich Company representative can assist Client and his family in setting up the equipment, individualizing the equipment to meet Client's specific needs, and training Client and his family in how to utilize the equipment in functional situations. Client currently receives weekly speech therapy services through the Capital Area Intermediate Unit and private speech therapy services every other week for an hour from this therapist. Both of his speech therapists have resources and knowledge base in which to teach Client the language system of the device, system features, and social aspects of using an augmentative communication system. Client's family is highly involved in Client's therapy and willing to learn and help teach Client the Accent 1000 to assure his communication success across environments. It is believed that the Accent 1000 is the device that will best support Client's communication abilities now and in the future.

Assurance of Financial Independence

The speech-language pathologist performing this evaluation is not an employee of nor has any financial relationship with the suppliers of speech-generating devices. All information obtained and presented in the evaluation was conducted in the best interest of the client. The professional

interest of the speech language pathologist performing this evaluation is solely the communication success of the individual.

This report was forwarded to Client's primary care physician, doctor's name, with a request for a prescription to order an Accent 1000 with keyguard and mounting system on date.

Therapist's Name

Therapist's Title

Physician's Name

Physician's address