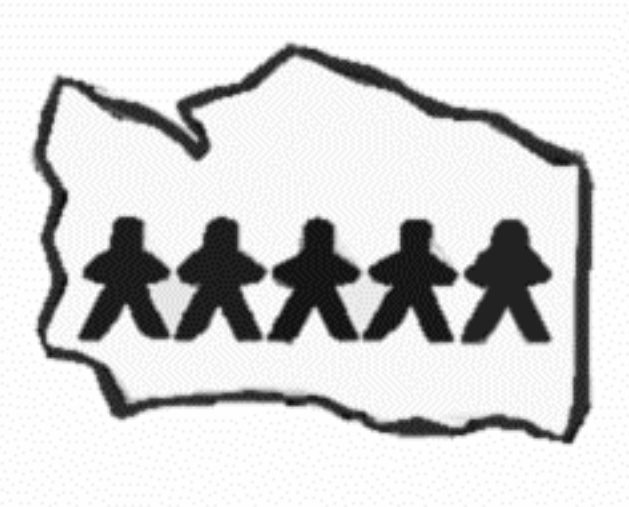

SLP GUIDELINES

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Table of Contents

SECTION ONE

Introduction

Eligibility Criteria
Service Delivery Models
Caseloads
General Exit Guidelines

ELIGIBILITY CRITERIA

Title 34 Code of Federal Regulation Section 300.8
Child with a Disability

(a) *General.*
(1) Child with a disability means a child evaluated in accordance with §§300.304 through 300.311 as having intellectual disability, a hearing impairment (including deafness), a speech or language impairment, a visual impairment (including blindness), a serious emotional disturbance (referred to in this part as "emotional disturbance"), an orthopedic impairment, autism, traumatic brain injury, another health impairment, a specific learning disability, deaf-blindness, or multiple disabilities, and who, by reason thereof, needs special education and related services.

(b) ….

(c) *Definitions of disability terms*. The terms used in this definition of a child with a disability are defined as follows:
(11) *Speech or language impairment* means a communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance.

California Education Code Section 56333

A pupil shall be assessed as having a *language or speech disorder* which makes him or her eligible for special education and related services when he or she demonstrates difficulty understanding or using spoken language to such an extent that it adversely affects his or her educational performance and cannot be corrected without special education and related services. In order to be eligible for special education and related services, difficulty in understanding or using spoken language shall be assessed by a language, speech, and hearing specialist who determines that such difficulty results from any of the following disorders:

a) Articulation disorders, such that the pupil's production of speech significantly interferes with communication and attracts adverse attention.

b) Abnormal voice, characterized by persistent, defective voice quality, pitch, or loudness. An appropriate medical examination shall be conducted, where appropriate.

c) Fluency difficulties that result in an abnormal flow of verbal expression to such a degree that these difficulties adversely affect communication between the pupil and listener.

d) Inappropriate or inadequate acquisition, comprehension, or expression of spoken language such that the pupil's language performance level is found to be significantly below the language performance level of his or her peers.

e) Hearing loss that results in a language or speech disorder and significantly affects educational performance.

Title 5 California Code Regulations Section 3030 (b) (11)
Effective July 1, 2014

(11) A pupil has a *language or speech disorder* as defined in Education Code section 56333, and it is determined that the pupil's disorder meets one or more of the following criteria:

(A) Articulation disorder.
1. The pupil displays reduced intelligibility or an inability to use the speech mechanism that significantly interferes with communication and attracts adverse attention. Significant interference in communication occurs when the pupil's production of single or multiple speech sounds on a developmental scale of articulation competency is below that expected for his or her chronological age or developmental level, and which adversely affects educational performance.
2. A pupil does not meet the criteria for an articulation disorder if the sole assessed disability is an abnormal swallowing pattern.

(B) Abnormal Voice. A pupil has an abnormal voice that is characterized by persistent, defective voice quality, pitch, or loudness.

(C) Fluency Disorders. A pupil has a fluency disorder when the flow of verbal expression including rate and rhythm adversely affects communication between the pupil and listener.

(D) Language Disorder. The pupil has an expressive or receptive language disorder when he or she meets one of the following criteria:
1. The pupil scores at least 1.5 standard deviations below the mean, or below the 7th percentile, for his or her chronological age or developmental level on two or more standardized tests in one or more of the following areas of language development: morphology, syntax, semantics, or pragmatics. When standardized tests are considered to be invalid for the specific pupil, the expected language performance level shall be determined by alternative means as specified on the assessment plan, or
2. The pupil scores at least 1.5 standard deviations below the mean or the score is below the 7th percentile for his or her chronological age or developmental level on one or more standardized tests in one of the areas listed in subdivision (A) and displays inappropriate or inadequate usage of expressive or receptive language as measured by a representative spontaneous or elicited language sample of a minimum of 50 utterances. The language sample must be recorded or transcribed and analyzed, and the results included in the assessment report. If the pupil is unable to produce this sample, the language, speech, and hearing specialist shall document why a fifty utterance sample was not obtainable and the contexts in which attempts were made to elicit the sample. When standardized tests are considered invalid for the specific pupil, the expected language performance level shall be determined by alternative means as specified in the assessment plan.

California Education Code Section 56031

Special Education, in accordance with (federal law), means specifically designed instruction, and at no cost to the parent, to meet the unique needs of individuals with exceptional needs… .Special Education includes…speech-language pathology services… .

California Education Code Section 5363 (a)

The term *Related Service* means…developmental, corrective, and other supportive services (including speech-language pathology and audiology services…) … as may be required to assist an individual with exceptional needs to benefit from special education.,. .

ASSESSMENT

If the student has a suspected language and speech disorder, or if it is suspected that a student may require speech or language therapy as a related service, then an assessment for special education should be conducted. Refer to Section 2: Assessment of the Santa Barbara County SELPA Procedural Handbook for assessment guidelines.

Universal Screening v. Screening for Special Education
EDC § 56321(f)

Pursuant to Section 1414(a)(1)(E) of Title 20 of the United States Code, the screening of a pupil by a teacher or specialist to determine appropriate instructional strategies for curriculum implementation shall not be considered to be an assessment for eligibility for special education and related services.

A student may not be individually screened for the purposes of special education. Screening an individual child constitutes a form of assessment that requires a signed assessment plan. In addition to the Education Code referenced above allowing screening for instructional strategies, an entire group/grade level may be assessed for evaluating such things as the State mandated grade level hearing and vision screening.

SERVICE DELIVERY MODELS AND COMMUNICATION NEEDS

Communication skills will be developed under one of four models, selected in accordance with each student's needs and levels of development. Regardless of the service model used, cooperative assessment, planning and programming efforts involving families, ~~and~~ professionals, and the environment are instrumental in developing educational programs that enhance the communicative competence of students with severe disabilities. The models are described as follows:

<u>General Classroom Programming Model I</u>

This model is usually followed for students who have equivalent language and cognitive skills and whose social interaction behaviors are at least equal to their language skills. Under this model, speech/language programming is a part of the daily curriculum provided by the classroom teacher, with parents reinforcing the program at home. Skills taught should be functional and related to the natural settings where language occurs.

<u>General Classroom Programming Model II</u>

General Classroom Programming Model II is most appropriate for students who demonstrate cognition at the pre-intentional level, where they are beginning to develop goal-oriented behavior and have acquired the concept of object permanence. Students at the pre-intentional level often show minimal indications of social awareness, and assessment of their language skills may or may not be feasible. As with Model I, speech/language programming is most successfully accomplished within the classroom by the classroom teacher during daily activities. Parents should closely replicate these instructional activities and skills in the home environment.

Prescriptive/Integrative/Collaborative Model III

This model is indicated for use with students who demonstrate cognition at intentional levels, where goal oriented behavior is clearly established. Under this model, the student's communicative skills, along with other skills, are developed through daily instruction by the classroom teacher, instructional aides, and the parents. During the period of time a student is served under this model, the teacher, SLP, psychologist, school nurse, parents and other professionals should use a collaborative approach to outline a program for the student. Goals and objectives in the area of communication will be infused with other goals and objectives in the IEP.

The Prescriptive/Direct Service Model IV

Students who demonstrate cognition at representational thought or above may be served under this model. These students display receptive or expressive language skills that are below their cognitive development and have social behaviors that are conducive to direct speech and language services. Under the prescriptive/direct service model, an IEP shall be developed which provides direct speech and language service as means of meeting goals and objectives for communicative development. For some students, a comprehensive instructional approach, using the daily environment and communicative experiences, which occur as the student interacts in a meaningful way with the environment, may be determined as the best means of delivering speech and language services. For others, an additional "pull-out" session with other children, or an individualized approach, may be determined to be more appropriate. As with the previously described models, the collaborative approach is critical to the overall success of direct speech and language services provided to the child. Communication goals and objectives are infused with other goals and objectives written in the IEP.

Speech and Language Services

An integrated approach with support services and daily instruction by the classroom teacher with parent participation is a critical factor in determining student progress. Services by the SLP will vary in accordance with the model under which a student is served. Services may range from support of general classroom language programming provided by the teacher to prescriptive direct therapy provided by the SLP and the classroom teacher. Assistance from the speech and language specialist to teachers and parents may come in a variety of forms. These may include: problem solving sessions, informal conversations, materials or lesson plans, written programs developed by the SLP (with information derived from observation, parents, teachers and other personnel familiar with the child) modeling or direct teaching.

Methods Available for the Development of Communication

Communication skills will be developed through the appropriate combination of infusion of language in the daily experience, the use of assistive/augmentative devices, communication boards, picture exchange communication systems, sign language, or verbalization. The selection of methods, materials or equipment is dependent upon the needs and capabilities of the child.

Summary of Communication Levels

Assessing the skills of severely disabled children for determining appropriate levels and types of communicative instruction can be very difficult, since standardized testing is rarely feasible. SLP will usually employ direct observation and formal or informal data gathering procedures that may include information from parents and other school personnel. A communication profile may be used to document the student's current levels of functioning in social/communicative development.

CASELOADS

Ed. Code § 56363.3 and 56441.7
The average caseload for language, speech, and hearing specialists in special education local plan areas shall not exceed 55 cases, unless the local plan specifies a higher average caseload and the reasons for the greater average caseload. For individuals between the ages of three to five years, caseload shall not exceed 40.

GENERAL CONSIDERATIONS FOR EXIT

There are several factors for the IEP Team to consider when making decisions regarding exit from speech and language therapy. However, the IEP Team will make final recommendations regarding services. They are as follows:

1. Goals are consistently met with data reflecting criteria as designated on the IEP.

2. Skills are determined to be commensurate with chronological and/or developmental age based on standardized battery of assessment.

3. The student consistently demonstrates behaviors that are not conducive to therapy such as a significant lack of cooperation, motivation, or chronic absenteeism. In these circumstances, the IEP Team should consider the initial eligibility decision since these behaviors might reflect social maladjustment, environmental, cultural, or economic factors rather than an actual disability.

4. Language skills are currently at a level for which the IEP Team agrees to use alternative ways to deliver required service and/or strategies. These ways may include reinforcement and monitoring in the classroom setting to achieve carry-over and functional usage.

5. Other associated and/or disabling conditions prevent the student from benefiting from further therapy. Examples are dental abnormalities, velopharyngeal insufficiency, inadequate physiological support for speech, or significant hearing loss.

6. Additional considerations for students with severe/profound needs can be found in Section VI of these guidelines.

A student no longer requires therapy to benefit from his/her education when the IEP Team determines that any one or more of the following general conditions exist:

1. The student's disability no longer negatively affects his/her educational performance in the regular education ~~p~~program.

2. Results of an updated assessment reveal that the student no longer meets the eligibility criteria for a speech and language disorder under which he/she is receiving therapy as a primary special education service OR the student no longer requires therapy as a related service to benefit from his/her individual education program.

3. The student graduates from high school with a regular diploma.

4. A student enrolled in a transition program reaches the age of 22 years of age and thus is no longer eligible for Special Education services.

5. For students who are deaf/hard of hearing ~~students~~, the student will be considered for exit if the IEP team determines that:
   a. He/she demonstrates age appropriate speech, language, and listening skills and perceives him/herself to be a competent speaker in a variety of communicative settings.
   b. He/she has been appropriately and consistently aided and has failed to respond to intensive auditory/oral skills intervention over a three-year period, following exposure to a variety of therapeutic techniques.
   c. The student's needs can best be met by an alternative program and/or service, or by the classroom teacher, or other service provider.

6. Student will no longer receive services if, at any time after the initial provision of special education and related services, the parent/guardian of a child receiving special education services revokes consent in writing for the continued provision of special education and related services.

SECTION TWO

Articulation

Definition

An **articulation disorder** is the atypical production of speech sounds characterized by substitutions, omissions, additions or distortions that may interfere with intelligibility (Adapted from ASHA (1993): http://www.asha.org/policy/RP1993-00208/).

Eligibility Criteria

(11) A pupil has a language or speech disorder as defined in Education Code section 56333, and it is determined that the pupil's disorder meets one or more of the following criteria:

(E) Articulation disorder.

3. The pupil displays reduced intelligibility or an inability to use the speech mechanism that significantly interferes with communication and attracts adverse attention. Significant interference in communication occurs when the pupil's production of single or multiple speech sounds on a developmental scale of articulation competency is below that expected for his or her chronological age or developmental level, and which adversely affects educational performance.
4. A pupil does not meet the criteria for an articulation disorder if the sole assessed disability is an abnormal swallowing pattern.

General Considerations for Articulation

There are several factors to be considered in deciding whether a student meets eligibility criteria for Speech or Language Impairment in the area of articulation. They are as follows:

1. Sound errors or process deviations or errors that are at least one year below the student's developmental level and are not in accordance with articulation norms. (Sample normative charts are available at the end of this section)
2. Multiple phonemic errors.
3. Consistent misarticulation of a phoneme in words at student's developmental level.
4. Unintelligible speech that interferes with academic, social, emotional, and/or vocational functioning.
5. For preschool students, the child's sound errors or phonological process deviations or errors are 6 months or more below the student's developmental level and are not in accord with articulation norms.

7. Developmental level (intellectual ability, adaptive and motor skills). Developmental level may also include physical and social-emotional maturation.
8. A lateral lisp may be considered for treatment after 4 1/2 years of age. Marshall, P. (2007) Frontal Lisp, Lateral Lisp. Mill Creek, WA. Marshall Speech and Language.
9. Stimulability and consistency of error.
10. Organic or physical disorders that affect prognosis such as dysarthria, apraxia, developmental anomalies, hearing impairment, cerebral palsy, or cleft palate. Consideration should be given to dental abnormalities interfering with sound production.
11. English Learner
    a. English Learner (EL) students and those students with no language dominance, in conjunction with a language other than English in their background, should have a minimum of three years to acquire the phonological sound system in English before being referred for speech/articulation testing. English learners may be considered eligible if articulation deficits and intelligibility concerns occur in English and the student's primary language and these deficits are influencing educational and social progress.
    b. *The normal process of second-language acquisition, as well as manifestations of dialect and sociolinguistic variance shall not be diagnosed as a handicapping condition.*

12. A speech disorder is suspected in the student's primary language and the Speech-Language Pathologist (SLP) has had an opportunity to **observe** the student and make recommendations for classroom **accommodations**.

13. Correct production of the target phoneme is reached with the speech sample reflecting criteria as designated on the IEP.

14. Articulation skills are determined to be commensurate with chronological and/or developmental age.

15. After three years of direct therapy, there is a lack of significant progress in articulation skills as evidenced by probes, therapy data, and teacher/parent observation.

16. The student consistently demonstrates behaviors that are not conducive to therapy such as a lack of cooperation, motivation, or chronic absenteeism. In these circumstances, the IEP Team should consider the initial eligibility decision since these behaviors might reflect social maladjustment, environmental, cultural, or economic factors rather than an actual disability. The IEP Team may also explore alternative services or strategies to remedy interfering behaviors or conditions.

17. Other associated and/or disabling conditions prevent the student from benefiting from further therapy. Examples are dental abnormalities, velopharyngeal insufficiency, inadequate physiological support for speech, or significant hearing loss.

18. A student may not be eligible for articulation therapy when the IEP Team determines that any one or more of the following general conditions exist:
    a. The student's disability no longer negatively affects his/her educational performance in the regular education or special education program.
    b. If based on assessment, the student no longer meets the qualification criteria for a speech disorder under which he/she is receiving articulation therapy as a primary special education service OR the student no longer requires articulation therapy as a related service in order to benefit from his/her special education program.
    c. The student's needs will be better served by an alternative program and/or service.
    d. He/she graduates from high school.
    e. In the case of a student with a severe disability, he/she reaches the age of 22 years (Education Code 56026 (A))
    f. Parent (or student over 18 years of age) refuses to allow the continuance of special education services.
    g. Student maintains minimum of 80% or greater correct production of error phoneme probes administered over several weeks in multiple contexts.

Phonological Processes

A phonological process disorder involves patterns of sound errors. Unlike articulation errors, these errors involve organizing the pattern of sounds, not necessarily in the motor production. These students are generally stimulable for the sounds in isolation, unlike students with articulation disorders. For example, substituting all sounds made in the back of the mouth like "k" and "g" for those in the front of the mouth like "t" and "d" (e.g., saying "tup" for "cup" or "das" for "gas") would be called “fronting”. Adapter from: Reinstein, A. (2010). Articulation vs Phonological. Retrieved December 5, 2017, from http://www.amyspeechlanguagetherapy.com/articulation-vs-phonological.html

Phonological Awareness

Speech is divided or segmented into a series of discrete sounds. Phonological awareness is the ability to recognize that words are made up of a variety of these discrete sound units.

Resources

- Mouth Diagram
- Articulation and Intelligibility Norms
- Best Practices for Articulation
- Intelligibility and Consonants Correct
- Phonemic Inventories (PRINT AND SCAN for each language)
- Languages Consonant Chart
- Elimination of Phonological Processes in Typical Development
- Best Practices for Phonology

ARTICULATION DIFFERENCES COMMONLY OBSERVED AMONG SPANISH SPEAKERS

Articulation Characteristics	Sample English Patterns
1. /t, d, n/ may be dentalized (tip of tongue is placed against the back of the upper central incisors)	diente/teeth, nada/nothing
2. Final consonants are often devoiced	dose/doze
3. b/v substitution	berry/very
4. Deaspirated stops (sounds like speaker is omitting the sound because it is said with little air release)	papas/potatoes, becerro/little goat borrego/sheep
5. ch/sh substitution	Chirley/Shirley
6. sh/ch substitution	wish/witch
7. ch/j substitution	garache/garage, char/jar
8. /d/ voiced /th/, or /z/ voiced /th/ (voiced /th/ does not exist in Spanish)	dis/this, zat/that
9. s/z substitution	price/prize
10. ngg/ng substitution	bringg/bring
11 /t/ voiceless /th/ or /s/ voiceless /th/ (voiceless "th" does not exist in Spanish)	tink/think or mouse/mouth
12. Schwa sounds inserted before word initial consonant clusters involving initial /s/ blends.	eskate/skate, eschool/school
13. Words can end in 10 different sounds: /a/, /e/, /i/, /o/,/[u/, /l/, /r/, /n/, /s/, /d/	May omit sounds at ends of words
14. When words start with "h," the /h/ is silent	'old/hold, 'it/hit, olister/Hollister
15. /r/ is tapped or trilled (tap /r/ might sound like the tap in the English word "butter")	classroom/classroom brroom/broom

16.	There is no “j” (e.g., judge) sound in Spanish; speakers may substitute /y/ or visa versa saying the /d / as in jano/no more.	Yulie/Julie, yoke/joke
17.	Spanish /s/ is produced in a more frontal position than English /s/.	sientate/sit down
18.	The “ñ” is pronounced like / y/ (e.g., “baño is pronounced “bahnyo”)	niño (a)/ boy or girl
19	Spanish has 5 vowels: a, e, i, o, u /ae, e, i, o, u/. Thus, Spanish speakers may produce the following vowel substitutions: ee/i substitution [/i/I/] [e/ea], [ah/a] substitutions [e/ae, a/ae]	peeg/pig, leetle/little pet/pat,s esthn/Stan
20.	Spanish has six diphthongs: /ey/, /ay/, /oy/, /aw/, /wy/, /iw/	piene/combs, jaula/cages, bilando/dancing ruido/nuises, doy/gives, ciudad/city
21.	Spanish speakers attempt to say a /b/ when the “b” follows an /m/ as in comb.	com”b”/comb

Adapted from: Roseberry-McKibbin, Langdon and LA City Unified

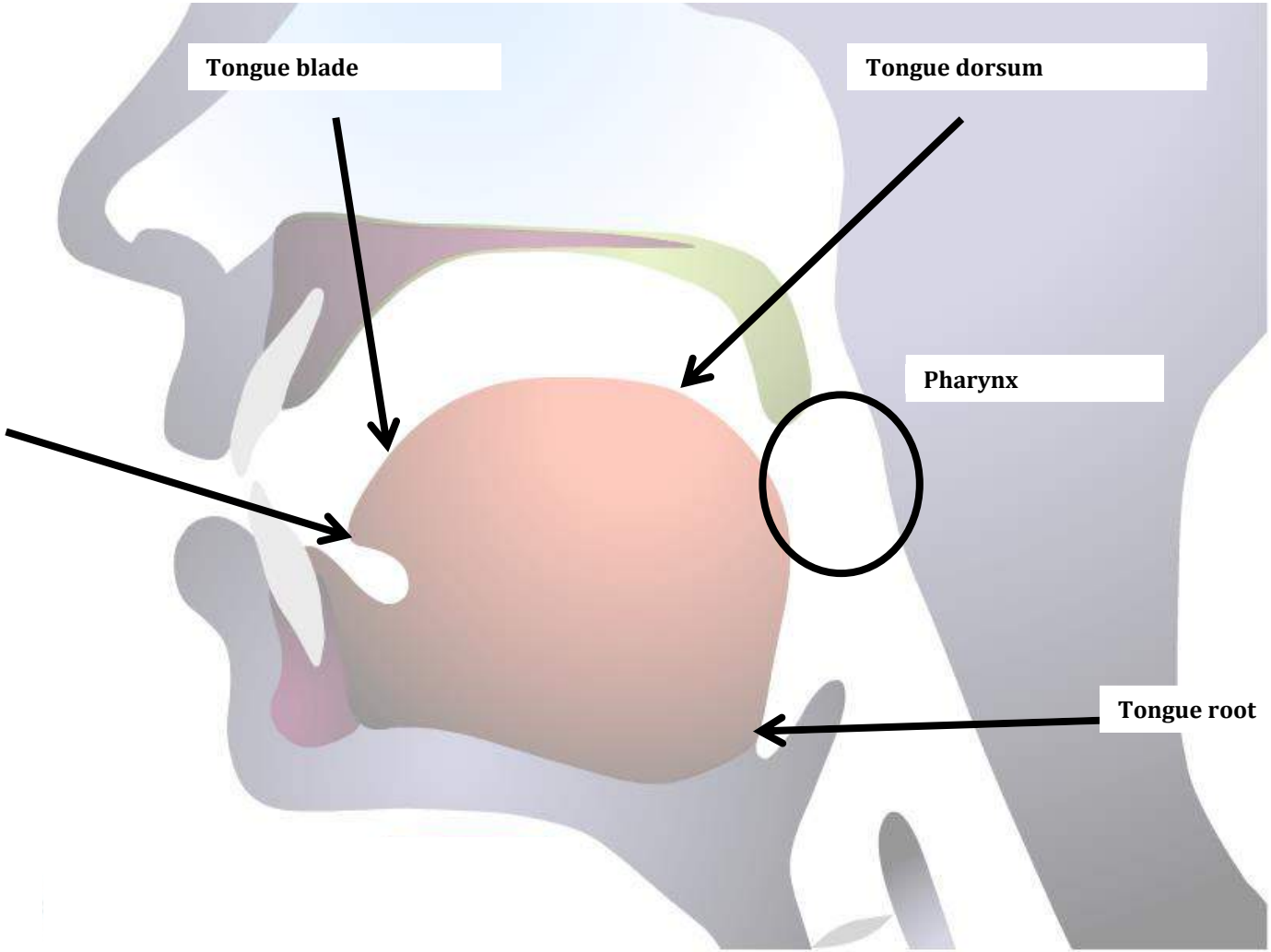

Diagram: Iowa Phonetics, 2001

Describing Speech Misarticulations

(San Diego Unified School District Phonology & Articulation Resource Center)

Teacher Questionnaire

1. Does this student misarticulate sounds when talking? Yes No

2. In general, how intelligible is the student to you?

Unintelligible **Fairly Intelligible** **Highly Intelligible** **Completely Intelligible**

3. Is the student's academic performance satisfactory?
   - ☐ Yes, the student meets grade level standards.
   - ☐ No, the student does not meet grade level standards.

4. If no, in which of the following areas is the student performing below grade level?
   Speaking **Reading** **Writing** **Spelling** **Math**

5. Does the misarticulation(s) have a significant adverse effect on any of the areas that are below grade level? **No** **Yes**

6. If yes, identify each area of impact and tell how the misarticulation affects academic performance.

Area _____ Impact _____

Area _____ Impact _____

Area _____ Impact _____

Area _____ Impact _____

7. What accommodations for the misarticulation(s) have you made to support the student in each affected academic area?

_____

_____

8. What interventions have you tried to correct the misarticulation(s)?

_____

9. Do classmates react negatively to the misarticulations? **No** **Yes**

10. If yes, describe the negative reactions and their impact on the student.

11. What have you done to stop the negative reactions?

12. In your judgement, does this student have an articulation problem that adversely affects educational progress in a significant way? **Yes** **No**

TEACHER INPUT — SPEECH SOUND PRODUCTION

Student: School: Teacher: Grade:

Your observations and responses concerning the above student will help determine if a sound production problem which adversely affects educational performance. Please return the completed form to the Speech-Language Teacher

	Yes	No	Sometimes	N/A
Is this student's intelligibility reduced to the extent that you find it difficult to understand him/her?	☐	☐	☐	☐
If Yes, check appropriate description: ☐ Occasional Difficulty ☐ Frequent Difficult ☐ Considerable Difficult				
Student's speech is intelligible even though some sound errors may be present. Check one.	☐ 50% ☐ 70% ☐ 80% ☐ 90% ☐ 100%			

Does this student appear frustrated or embarrassed because of his/her production errors?	☐	☐	☐	☐
Does the student avoid speaking in class or in other situations because of his/her production errors?	☐	☐	☐	☐
Has this student ever expressed concern about his/her production errors?	☐	☐	☐	☐
Does the student's speech distract listeners from what the student is saying?	☐	☐	☐	☐
Does the student have age-appropriate awareness of sounds in words and ability to rhyme, segment, and manipulate sounds in words?	☐	☐	☐	☐
Does the student make the same errors when reading aloud as s/he does when speaking?	☐	☐	☐	☐
Does the student have difficulty discriminating sounds and/or words from each other?	☐	☐	☐	☐
Does the student make spelling errors that appear to be associated with speaking errors?	☐	☐	☐	☐
Does the student self-correct articulation errors?	☐	☐	☐	☐
Does the student have reading problems due to articulation problems?	☐	☐	☐	☐
Does the student mispronounce during reading of words containing error sounds?	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐
	☐	☐	☐	☐

Rate the impact of the student's speech errors on his/her social, emotional, academic and/or vocational functioning. Check one:

☐does not interfere ☐minimal impact

☐interferes C) ☐seriously limits

Do you have any other observations relating to the articulation skills of this student? _____

It is my opinion that these behaviors adversely affect the student's educational performance. ☐YES ☐NO

If yes, provide explanation: _____

_____

_____

_____

_____ _____

Classroom Teacher Signature

Date

ED -40751 Rev. 07.09

Department of Education

Speech: Sound Production Resource Packet

Speech Questionnaire

Parent Form

Student's Name _____ Date _____

Name of Parent Completing the Form _____

Please answer the following questions about your child's speech difficulties. Use the following rating scale for questions 1—7. Write the number that corresponds with your opinion in each blank.

	1	2	3	4	5
Never	Rarely	Sometimes	Often	Always	NA

1. Do you understand your child's conversational speech?_____
2. Do you understand your child's production of single words?_____
3. Do others understand your child's speech when talking face-to-face?_____
4. Do others understand when your child talks on the telephone?_____
5. Do others understand when your child talks on a topic familiar to the listener?_____
6. Do others understand when your child talks on a topic unfamiliar to the listener?_____
7. Do others understand when your child talks in a quiet environment?_____
8. Do others understand when your child talks in a noisy environment?_____
9. Is your child aware of his/her speech differences?_____ If so, please explain.

   _____

10. Does your child react in any way to the speech differences? _____ If so, please explain.

    _____

11. Do others react to your child's speech differences? _____ If so, please explain.

    _____

12. Describe your concerns about your child's speech.

    _____

    _____

    _____

Articulation Guidelines

Can be distributed to teachers and parents as general guidelines for referral to SLP.

Mastery of Phonemes (adapted from Colorado Department of Education K-12 SLI Guidelines, 2010)

Age	Phoneme	
3:0	/m/, /n/, /h/, /p/, /b/, /d/, /w/ initial	
3:6	Age /k/, /g/ /f/ initial, /t/	
4:0	/j/	"y"
4:6	/θ/	"th" voiceless
5:0	/l/ initial	
5:6	/f/ final, /v/,	
6:0	/ð/, /ʃ/, /tʃ/, /dʒ/, /l/ final	"th" voiced "sh" "ch" "dg"
7:0 – 9:0	/s/, /z/	
8:0	/r/, /ɚ/	

Intelligibility (adapted from Colorado Department of Education K-12 SLI Guidelines, 2010)

Age	Intelligibility
2:0	Parents 87%, Strangers 50%
2:6	51-70%
3:0	71-80%
4:0	100%
5:0	100%

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INTELLIGIBILITY & CONSONANT CORRECT

How intelligible is the speaker?

There is no standard procedure for determining intelligibility. It is a perceptual judgment. Factors that influence intelligibility include the number and types of speech errors, the consistency of the errors, the frequency of occurrence of the error sound in the child's language, and the presence of phonological processes. Some authors suggest calculating the percentage of consonants correct (PCC), although there is a low correlation with intelligibility in a speech sample since some error types affect intelligibility more than others. For example, sound deletions reduce intelligibility more than distortions. Examiners typically count the number of words understood or the number of consonants correct in a 100-word sample and then estimate overall intelligibility using a rating scale.

Formula for Percentage of Consonants Correct (PCC)

Use the following scale and/or the Speech Intelligibility Interpretation Values found in the Arizona Articulation Proficiency Scale, Third Revision (Arizona 3) to determine overall speech intelligibility.

Intelligibility Rating Scale

How severe are the phonetic differences?

Formal assessment measures, such as the Goldman-Fristoe Test of Articulation-3, the Arizona 3 and the Clinical Assessment of Articulation and Phonology allow norm-referenced comparisons. The Arizona 3 provides a severity rating scale based on the total score. The Goldman-Fristoe Test of Articulation-2 and Clinical Assessment of Articulation and Phonology yield standard scores and percentile ranks.

When do the errors significantly interfere with communication?

Most researchers recommend intervention when students are 1.0–2.0 standard deviations (SD) below the norm, moderately to severely unintelligible, or show significant negative social–emotional problems related to speech production. A score of –1.5 SD on a standardized test correlates with a moderate impairment and could reasonably be considered a "significant" difference.

When do the errors adversely attract attention?

Some students experience a social penalty for speech production errors. Interview the parents, the teacher, and the student (when appropriate) and observe the student in a variety of communication acts to determine the nature and the extent of the penalty. Look for frequent

requests for clarification, presence of speech avoidance, and negative reactions from listeners in important communication settings. Use Describing Speech Misarticulations: Teacher

This table: Shriberg, L., and Kwiatkowski, J. (1982) Phonological disorders III: A procedure for assessing severity of involvement. *Journal of Speech and Hearing Disorders*, 47, 256-270.

PCC= (# of correct consonants/# of correct + incorrect consonants) x 100

Intelligibility	Estimate of Percentage of Consonants Correct
Good	>85
Mildly–moderately unintelligible	65-84
Moderately–severely unintelligible	50-64
Severely unintelligible	<50

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

ENGLISH PHONEMIC INVENTORY

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal
Plosive	p b			t d			k g	
Nasal	m			n			ŋ	
Trill								
Tap or Flap								
Fricative		f v	θ ð	s z		ʃ ʒ		h
Affricate					ʧ ʤ			
Glides (Approximant)	w			r		j		
Liquid (Lateral Approximant)				l				

Reference:
Edwards, H.T. (1992). Applied phonetics: The sounds of American English. San Diego: Singular Publishing Group, Inc.

Facts on Spanish Phonology

- The following consonant clusters are used in Spanish; these do not occur in word-final position:[1]
  /pl/, /pɾ/, /bl/, /bɾ/, /tɾ/, /dɾ/, /kl/, /kɾ/, /gl/, /gɾ/, /fl/, and /fɾ/.
- There are five consonants used in word-final position:[2]: /l/, /ɾ/, /d/, /n/, and /s/.
- In intervocalic environments, the allophonic variations for /b, d, g/ are /ß, ð, ɣ/.[3]
- Dialectal variations in Spanish phonology exist. It is important to recognize this when assessing a Spanish speaker. For example, /v/ and /θ/ occur in some Spanish dialects.
- By age 4, normally developing monolingual Spanish speakers acquire most sounds of the language except for /g/, /f/, /s/, /ɲ/, /r/, and /ɾ/.[4]
- Phonemes in English that do not occur in Spanish include the following:
  - /ŋ/, /v/, /ð/, /θ/, /z/, /ʃ/, /ʒ/, /h/, /ʧ/, /ʤ/, and /ɹ/.
- The Spanish vowel system is much smaller than that of English; they are similar to the short vowels of English. Spanish vowels include the following: /a/,/e/, /i/, /o/, /u/.[5]

- Spanish developmental norms[6]

3;3	3;7	3;11	4;3	4;7	4;11	5;7	>5;7
/p,b,t/	/k,w,m,n/	/j,l/	/f/	/ ʧ,d,g,ɾ/	/x,ɲ/	/s/	/r/

Data were normed on 120 Spanish-speaking children of Mexican descent living in California. Spanish was reported as the primary language. Data reflect 90% accuracy of phoneme production..

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[2] *Ibid.*

[3] Jimenez, B. C. (1987). Acquisition of Spanish consonants in children aged 3-5 years, 7 months. *Language, Speech, and Hearing Services in Schools, 18*, 357–363.

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AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

SPANISH PHONEMIC INVENTORY

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal
Plosive	p b			t d			k g	
Nasal	m			n		ɲ		
Trill				r				
Tap or Flap				ɾ				
Fricative		f		s			x	
Affricate					ʧ			
Glides (Approximant)	w					j		
Liquid (Lateral Approximant)				l				

Reference:
Goldstein, B. (2000). *Cultural and linguistic diversity resource guide for speech-language pathologists*. San Diego, CA: Singular.

Facts on Cantonese Phonology

- Phonemes in English that are not found in Cantonese include the following:
  - /b/, /d/, /g/, /v/, /z/, /ʃ/, /ʒ/, /ɹ/, /tʃ/, /dʒ/, /ð/, and /θ/.
- In addition to final consonant deletion, common substitution errors for Cantonese speakers learning English are as follows:[7]
  - /s/ for /θ/ in initial position;
  - /f/ for /θ/ in final position;
  - /d/ for /ð/ in initial or medial position;
  - /s/ for /z/ in initial, medial, or final position;
  - /f/ for /v/ in initial or medial position;
  - /w/ for /v/ in initial or medial position;
  - /l/ for /r/ in initial, medial, or final position; and
  - /s/ for /ʃ/ in initial, medial, or final position.
- Some of the Cantonese sounds, which are not found in English, have similar correlates in English:

Cantonese	English
/p^h/	/b/
/t^h/	/d/
/k^h/	/g/
/ts^h/	/tʃ/
/ts/	/dʒ/

[7] Cheng, L. (1991). *Assessing Asian language performance: Guidelines for evaluating limited-English proficient students* (2nd ed.). Oceanside, CA: Academic Communication Associates.

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

CANTONESE PHONEMIC INVENTORY

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Labial-Velar	Glottal
Plosive	p p^h			t t^h			k k^h	kw k^hw	
Nasal	m			n			ŋ		
Trill									
Tap or Flap									
Fricative		f		s					h
Affricate				ts	ts^h				
Glides (Approximant)						j		w	
Liquid (Lateral Approximant)				l					

Reference:

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Facts on Mandarin Phonology

- Mandarin is a tonal language. Each syllable has a tone and each tone changes the semantics of a word. The tones are as follows:[1]
  - high level,
  - rising,
  - falling–rising,
  - falling, and
  - neutral.
- There are no consonant clusters.[2]
- Words are monosyllabic.[3]
- The sounds /n/ and /ŋ/ are the only consonants that can occur in word-final position.[4]
- Phonemes in English that are not found in Mandarin include the following:
  - /v/, /z/, /ʃ/, /ʒ/, /ʧ/, /ʤ/, /θ/, /ð/
- In addition to final consonant deletion, common substitution errors for Mandarin speakers learning English include the following:[5]
  - /s/ for /θ/ in initial, medial, or final position;
  - /f/ for /θ/ in final position;
  - /d/ for /ð/ in initial or medial position;
  - /z/ for /ð/ in initial or medial position;
  - /f/ for /v/ in initial or medial position; and
  - /w/ for /v/ in initial or medial position.

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AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

MANDARIN PHONEMIC INVENTORY[1]

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Alveopalatal	Postalveolar	Retroflex	Palatal	Velar	Uvular	Glottal
Plosive	p pʰ			t tʰ					k kʰ		
Nasal	m			n					ŋ		
Trill											
Tap or Flap											
Fricative		f		s	ɕ		ʂ		x		
Affricate				ts tsʰ	tɕ tɕʰ		tʂ tʂʰ				
Glides (Approximant)							ɻ				
Liquid (Lateral Approximant)				l							

[1] Chart based on information gathered from the following:

Cheng, L. (1991). *Assessing Asian language performance: Guidelines for evaluating limited-English proficient students* (2nd ed.). Oceanside, CA: Academic Communication Associates.

Fang, X., & Ping-an, H.. (1992). Articulation disorders among speakers of Mandarin Chinese. *American Journal of Speech-Language Pathology, 1*(4), 15–16.

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

VIETNAMESE PHONEMIC INVENTORY

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Glottal
Plosive	p b			t d t^h		ʈ	c	k g	
Nasal	m			n			ɲ	ŋ	
Trill				r					
Tap or Flap									
Fricative		f v		s z	ʃ ʒ			x	h
Affricate									
Glides (Approximant)							j	w	
Liquid (Lateral Approximant)				l					

Additional sounds not found on the chart: /k͡p̚/ and / ŋm/.

Reference:

Cheng, L. (1991). *Assessing Asian language performance: Guidelines for evaluating limited-English proficient students* (2nd ed.). Oceanside, CA: Academic Communication Associates.

Hwa-Froelich, D., Hodson, B. W., & Edwards, H. T. (2002). Characteristics of Vietnamese phonology. *American Journal of Speech-Language Pathology, 11*, 264–273.

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

Facts on Arabic Phonology*

- There are three "levels" of Arabic:[1]
  - Modern Standard Arabic—used in religious ceremony and literature,
  - Educated Spoken Arabic—used in schools and public arenas, and
  - Colloquial Arabic—used at home and in community; significant dialectal variability exists among colloquial forms.
- Dialectal variations in phonology are evident in Arabic. It is important to recognize this when assessing an Arabic speaker.
- Arabic has emphatic consonants, such as /t̲/, /d̲/, /ð̲/, and /s̲/. Emphatic consonants are described as those sounds that are produced with the root of the tongue retracted toward the pharyngeal wall.[2]
- In postvocalic environments the /r/ is trilled; however, in prevocalic environments the /r/ is tapped.[3]
- Phonemes in Arabic that are not found in English include the following:
  - /t̲/, /d̲/, /ð̲/, /s̲/, /χ/, /ʁ/, /ħ/, /ʕ/, and /ʔ/.[4]
- Phonemes in English that are not found in Arabic include the following:
  - /p/, /v/, /ɹ/, /ʒ/, /g/, and /ŋ/.
- Research indicates that for Arabic-speaking children in Jordan, medial consonants have a higher incidence of accuracy than initial or final consonants.[5]

*Information based on a dialect of Arabic used in Jordan.

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[1] Amayreh, M. (2003). Completion of the Consonant Inventory of Arabic. *Journal of Speech, Language, and Hearing Research, 46*, 517–529.
[2] Amayreh, M., & Dyson, A. (1998). The acquisition of Arabic Consonants. *Journal of Speech, Language, and Hearing Research, 41*, 642–653.
[3] *Ibid.*
[4] *Ibid.*
[5] *Ibid.*

AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION

ARABIC PHONEMIC INVENTORY

Please remember that dialectal differences exist for each language and should be considered when using the phonemic charts.

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	b			t d t̲ d̲			k	q		ʔ
Nasal	m			n						
Trill				r						
Tap or Flap				ɾ						
Fricative		f	θ ð ð̲	s z s̲		ʃ		χ ʁ	ħ ʕ	h
Affricate					ʤ					
Glides (Approximant)	w					j				
Liquid (Lateral Approximant)				l						

/t̲/, /d̲/, /s̲/, and /ð̲/ reflect emphatic consonants. According to IPA guidelines, these emphatic consonants may be transcribed as /t^{ɛ}/, /d^{ɛ}/, /s^{ɛ}/, /ð^{ɛ}/.

Reference:

Amayreh, M. (2003). Completion of the Consonant Inventory of Arabic. *Journal of Speech, Language, and Hearing Research, 46*, 517–529.

Amayreh, M., & Dyson, A. (1998). The acquisition of Arabic consonants. *Journal of Speech, Language, and Hearing Research, 41*, 642–653.

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Native Phonetic Inventory: amharic

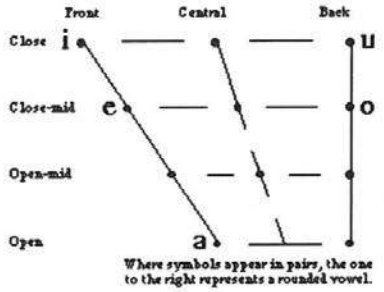
These are the sounds found in most native amharic dialects: There are also sounds not on the chart, shown below.

CONSONANTS (PULMONIC)

	Bilabial	Labiodental	Dental	Alveolar	Postalveolar	Retroflex	Palatal	Velar	Uvular	Pharyngeal	Glottal
Plosive	p b			t d				k g			
Nasal	m			n			ɲ				
Trill											
Tap or Flap				ɾ							
Fricative		f		s z	ʃ ʒ						h
Affricate					tʃ dʒ						
Lateral fricative											
Approximant							j				
Lateral approximant				l							

Where symbols appear in pairs, the one to the right represents a voiced consonant. Shaded areas denote articulations judged impossible.

VOWELS



Where symbols appear in pairs, the one to the right represents a rounded vowel.

other sounds: a labio-velar central approximant [w]; voiceless stops, affricates, and sibilant fricatives can be ejective; voiced and unvoiced velar labialized stops .

Adapted from: Maddieson, I., (1984)

CONSONANT CHART

The chart below indicates which English speech sounds are present in the sound inventory of other languages that are spoken by students in San Diego Unified School District. Blanks indicate that a sound does not exist in that language. An "A" indicates that an approximation of the English sound is present in the language in some context. There are many sounds in each of these languages that do not exist in English and are not included in this chart. Features of each language's sound and grammar/syntax systems are summarized below the consonant inventory. Additional information about numerous languages can be found on the referenced websites.

Manner	**Stop/Plosive**						**Affric**		**Fricative**								**Liquid**		**Nasal**			**Glide**	
Place	**Bilabial**		**Alveolar**		**Velar**		**Pal-Alv**		**Lab-Den**		**Int'dent**		**Alveolar**		**Pal-Alv**		**Gl**						
English (IPA)	**p**	**b**	**t**	**d**	**k**	**g**	**ʧ**	**ʤ**	**f**	**v**	**θ**	**ð**	**s**	**z**	**ʃ**	**ʒ**	**h**	**l**	**r**	**m**	**n**	**ŋ**	**w**	**j**
Language																								
Arabic		b	t	d	k			ʤ	f		θ	ð	s	z	ʃ		h	l	A	m	n		w	j
	No initial consonant clusters. Tapped & trilled /r/ context dependent. Dialectal variations in phonology.																							
Cantonese	p	b	t		k			ʤ	f				s				h	l		m	n	ŋ	w	j
	Few consonant clusters. Only stops & nasals in final position. Monosyllabic./n/ & /l/ often interchanged. Grammar: Primarily uninflected. Syntax: Topic (old information) precedes new/added information.																							
Hmong	p		t	d	k	g			f	v			**s**	**z**			h	l	r	m	n			j
	Anecdotal evidence of limited consonant clusters (e.g., /pl-/). Only final sound is /ŋ/.																							
Japanese	p	b	t	d	k	g	ʧ	ʤ					s	z	ʃ		h		A	m	n	A	w	j
	Tap /r/, between /l/ & /r/. No consonant clusters. Primarily open syllables. Nouns not marked for number. No articles. Limited pronoun use. Syntax: subject-object-verb.																							
Khmer	p	b	t	d	k	g			f				s				h	l	r	m	n	ŋ	w	j
	No final consonant clusters. Only voiceless stops, nasals, and /l/ in final position. No prefixes/suffixes. Nouns and verbs not marked. Modifiers follow nouns.																							
Korean	p	b	t	d	k	g	A	A					s		A		h	l	A	m	n	ŋ	w	j
	No consonant clusters. Flapped /r/. /r/ & /l/ interchangeable. Only stops, liquids, nasals in final position. Verbs inflected, nouns not inflected. No articles. Syntax: subject-object-verb.																							
Lao	p	b	t	d	k	g			f	v			s				h	l		m	n	ŋ		j
	Consonant clusters are /kw-/ and /k^hw-/. Few consonants can occur in final position. Grammar: uninflected.																							
Mandarin	p		t		k		A		f				s		A	A		l		m	n	ŋ		
	No consonant clusters. Only /n/ & /ŋ/ occur in final position. Monosyllabic. Grammar: Primarily uninflected. Syntax: Topic (old/known information) precedes new/added information.																							
Romanian	**p**	**b**	**t**	**d**	**k**	**g**	ʧ	ʤ	f	v			s	z	ʃ	ʒ	h	l	r	m	n			**j**
	Trilled /r/. Modifiers follow nouns.																							
Russian	**p**	**b**	**t**	**d**	**k**	**g**	ʧ		f	v			s	z	ʃ	ʒ	**h**	**l**	**r**	**m**	**n**			**j**
	Trilled /r/. No articles.																							
Samoan	p		t		k				f	v			s				h	l	r	m	n	ŋ		
	Only open syllables. No consonant clusters.																							
Somali		b	t	d	k	g	ʧ		f				s		ʃ		h	l	A	m	n	ŋ	w	j
	Trilled, flap /r/. Primarily open syllables. Prepositions precede verbs. Syntax: subject-object-verb.																							
Spanish	p	b	t	d	k	g	ʧ		f				s				h	l	r	m	n		w	j
	Flapped & trilled /r/. No final consonant clusters. Only /l, r, d, n, s/ occur in final position. Dialectal variations exist. Adjectives follow nouns. Syntax: subject-verb-object, question word-verb-subj.																							
Tagalog	p	b	t	d	k	g	ʧ	ʤ					s				h	l	r	m	n	ŋ	w	j
	Trilled /r/. Other common Filipino dialects are Ilocano and Cebuano.																							
Vietnamese	p	b	t	d	k	g			f	v			s	z	ʃ	ʒ	h	l	r	m	n	ŋ	w	j
	Few consonant clusters. Some sounds only occur in certain dialects. Trilled /r/. Primarily monosyllabic (CVC). Only voiceless stops and nasals occur in final position. Grammar: Uninflected.																							

Note: Voicing is context dependent and is not a reliable indicator of a deficit.

Compiled 2002 by Andrea Schindler
Revised 2008 by Andrea Schindler and Jennifer Taps

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http://accent.gmu.edu/

http://www.nvtc.gov/lotw/languageList.html

Compiled 2002 by Andrea Schindler
Revised 2008 by Andrea Schindler and Jennifer Taps

Phonological Processes

Definition: Systematic changes that affect entire phoneme classes or phoneme sequences. These changes are age appropriate up to the ages listed below.

Ages		
	DELETIONS	
2	1. Initial Consonant Deletion	at/hat
3	2. Final Consonant Deletion	no/noze
4	3. Consonant Cluster Reduction	tap/stop (deleting one or more)
	SUBSTITUTIONS	
3 ½ – 5	1. Stopping	ton/sun dus/juice
3	2. Voicing/Devoicing	die/tie crip/crib
3 – 6	3. Gliding	ju/shoe wef/leaf weed/read
4 – 5	4. Fronting/Backing	dum/gum sue/shoe/ cop/top
5 – 6	5. Affrication/Deaffrication	chew/shoe ship/chip
	ASSIMILATION	
3 – 4	1. Progressive	beb/bed dod/dog
3 – 4	2. Regressive	lellow/yellow fwim/swim
or		
3	3. Velar Assimilation	gog/dog
3 – 4	4. Labial Assimilation	beb/bed fwim/swim
4	5. Alveolar Assimilation	lellow/yellow dod/dog
3	6. Nasal Assimilation	neon/pencil
	OTHER (infrequent)	
3 – 4	1. Vocalization (vowelization)	bado/bottle ka/cartefon/telephone
4	2. Weak Syllable Deletion	asks/ask
7	3. Transposition (Metathesis)	mud/mother
5	4. Vowel Naturalization	op/stop k/cats
2	5. CC Deletion	wawa/water d du/thank you
2	6. Reduplication	

Bennett (11/85: 9/87) Adapted from Hodson (1980); Ingram (1981); Shribert & Kwiakowski (1981); Kahn (1982).

Phonological Processes

Phonological Process	Description	Example	Developmental Information
A. Syllable Structure Processes 1. Deletion of Final Consonant	Reduction of CVC words or syllables to CV form, not usually sound specific	book → /b ð/	Children who are developing language normally will begin to include final consonants by age 3[1].
2. Cluster Reduction	Simplification of clusters of consonants usually by deleting the one that is most difficult to produce	tree → /ti/	Most children (90%) do not use cluster reduction after age 4.[1]
3. Weak Syllable Deletion	Deletion of unstressed syllables	telephone→ /t fon/	Process does not exist in speech of normally developing children beyond age 4[1]
4. Glottal Replacement	Replacement of final consonant of a syllable, usually in the intervocalic position, by a glottal stop; may mark the place of a consonant that is deleted.	kitchen→ /kiʔən/	
B. Harmony Processes 1. Labial Assimilation	Substitution of a labial phoneme for a non-labial phoneme due to influence of a dominant labial phoneme contained within the word	thum→ /wʌm/	
2. Alveolar Assimilation	Substitution of a phoneme which is produced with alveolar placement for a non-alveolar phoneme due to influence of a dominant alveolar phoneme within the word	yellow→ /lɛlo/	
3. Velar Assimilation	Substitution of a phoneme which is produced with velar placement for a non-velar phoneme due to influence of a dominant velar phoneme within the word	dog→ /gɔg/	
4. Prevocalic Voicing	Substitution of a voiced stop for its voiceless cognate due to influence of the following vowel	pig→ /big/	
5. Final Consonant Devoicing	Substitution of a voiceless stop for its voiced cognate due to influence of the silence following the word	bed→ /bɛt/	Devoicing of final consonants does not occur after age 3 in normal phonological development[1]

Source: From Speech *and Language Services in Michigan: Suggestions for Identification, Delivery of Service and Exit Criteria*, edited by Elizabeth Loring Lockwood and Kathleen Pistano. East Lansing: the Michigan Speech-Language-Hearing Association 1991. Used with permission.

[1]Phonological Disability in Children cited by Linda M. Laila Khan. "A Review of 16 Major Phonological Processes." Language, Speech, and Hearing Services in Schools. (April 1982). pp. 77-85.

Phonological Processes

Phonological Process	Description	Example	Developmental Information
C. Feature Contrast Processes 1. Stopping	Substitution of a stop for a fricative	sun → /tʌɳ/	
2. Affrication	Substitution of affricatives for fricatives: usually occurs more often with sibilant fricatives than others	sun→ /tsʌɳ/	Most fricatives should be correctly produced by age 4.[1]
3. Fronting	Substitution of phonemes by others which are produced anterior to the target phonemes; occurs commonly with velar stops	wago→ /wadn/	Reported to no longer be evident by age 4 in normally developing children.[1]
4. Gliding of Fricatives	Substitution of glides for fricative phonemes	soap→ /jop/	
5. Gliding of Liquids	Substitution of /w/, and /j/ for /l or /t/, simplification process	red→ /wed/	Majority of children reported to produce correct liquids by age 4.[1]
6. Vocalization	Substitution of vowels for syllable consonants, most frequently /ʊ/ and /o/	table→ /tebo/	Syllabics are usually acquired by age 4[1].
7. Denasalization	Substitution of stops for nasals; usually affects word-initial and word-medial nasals more than word-final nasals	smoke→ /bok/	

Source: From Speech *and Language Services in Michigan: Suggestions for Identification, Delivery of Service and Exit Criteria*, edited by Elizabeth Loring Lockwood and Kathleen Pistano. East Lansing: the Michigan Speech-Language-Hearing Association 1991. Used with permission.

[1]Phonological Disability in Children cited by Linda M. Laila Khan. "A Review of 16 Major Phonological Processes." Language, Speech, and Hearing Services in Schools. (April 1982). pp. 77-85.

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Elimination of Phonological Processes in Typical Development

Phonological processes are typically gone by these ages (in years; months)

PHONOLOGICAL PROCESS	EXAMPLE	GONE BY APPROXIMATELY
Pre-vocalic voicing	pig = big	3;0
Word-final de-voicing	pig = pick	3;0
Final consonant deletion	comb = coe	3;3
Fronting	car = tar ship = sip	3;6
Consonant harmony	mine = mime kittycat = tittytat	3;9
Weak syllable deletion	elephant = efant potato = tato television =tevision banana = nana	4;0
Cluster reduction	spoon = poon train = chain clean = keen	4;0
Gliding of liquids	run = one leg = weg leg = yeg	5;0
Stopping /f/	fish = tish	3;0
Stopping /s/	soap = dope	3;0
Stopping /v/	very = berry	3;6
Stopping /z/	zoo = doo	3;6
Stopping 'sh'	shop = dop	4;6
Stopping 'j'	jump = dump	4;6
Stopping 'ch'	chair = tare	4;6
Stopping voiceless 'th'	thing = ting	5;0
Stopping voiced 'th'	them = dem	5;0

Best Practices Guidelines for Phonological Assessment and Treatment

Finding	Practice
Standardized assessment provides a limited picture of a child's phonetic and phonemic inventory. (Elbert & Gierut, 1986)	Administer independent probes that target sounds across positions multiple times to choose the most optimal target sounds. (Resource – *Barlow Assessment of English Phonology and Barlow Assessment of Spanish Phonology*) (on eTeams)
Single word assessments provide as much information as conversational samples to determine severity of need. (Masterson et al, 2005)	Administer and transcribe independent probes at the single word level. Collect conversation (but no need to transcribe) samples for an overall picture of a child's prosody, intelligibility and sound patterns.
Implicational relationships exist across all languages. Marked structures imply unmarked structures. (Elbert & Gierut, 1986)	Teach marked structure to generate change for marked and unmarked sounds. (Resource – *Implicational Laws*)
Treating nonstimulable, later-developing sounds for children with phonological disorders yields more change throughout the child's sound system. (Gierut, 2007)	Treat nonstimulable sounds and monitor stimulable sounds.
Three element clusters imply the presence of two-element /s/ and non /s/ clusters. (Gierut & Champion, 2001)	Teach three-element clusters to make the greatest impact IF the child has the second and third consonants already in phonemic inventory.
Clusters with a small sonority difference imply the presence of clusters with a large sonority difference. (Gierut, 1999)	Teach clusters with a small sonority difference to create change in child's system. (Resource – *Sonority Sequencing Principle*)
/sp-/, /sk-/ and /st-/ are considered to be adjunct clusters. They inhibit generalization when treated. (Gierut, 1999)	Avoid treating /sp-/, /sk-/ and /st-/. If /sn-/ and /sm-/ pattern in the same way as /sp-/, /sk-/ and /st-/ for a particular child, avoid treating these as well.
Minimal pairs marked by maximal feature differences and a major class distinction create the most change in a child's system. (Gierut, 2001)	Teach two unknown sounds (sonorants vs. obstruents) that are maximally distinct. (Resource – *Matrix of Feature Oppositions)*
Treatment for bilingual children needs to consider sounds in both languages. There is often interaction between the two languages, but many sounds may not be impacted in such a way. (Yavas & Goldstein, 1998)	Choose phonological targets from both languages if possible.
Correct placement is essential to progress. Bauman-Waengler (2004); Secord (2007)	Be skilled in a range of elicitation methods. (Resource – *Placement Strategies*)
Mass practice is essential to progress. (Skelton, 2004)	Each student should produce approximately 150 correct productions a session. Schedule no more than four students per group.
Cognitive monitoring of production is essential to progress. (Ertmer & Ertmer, 1998)	Build cognitive monitoring from the first session. Ask all students in group to monitor their own and each other's productions. All students should be engaged in every moment of instruction.
There is no research evidence that oral motor exercises improve speech production. (Lof, 2006)	Differentiate between general oral motor exercises and placement methods that promote positioning of the articulators for specific sound production.

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Characteristics of Apraxia of Speech[1]

- The number of misarticulations increases as the complexity of the speech task increases.
- Misarticulations occur on both consonants and vowels. Articulation errors occur more frequently on consonant clusters than on singletons. Vowels are misarticulated less frequently than consonants.
- Sounds in the initial position are affected more often than sounds in the medial or final positions.
- The frequency of specific sound errors is related, at least in part, to the frequency of occurrence in speech. More errors are noted with less frequently occurring sounds.
- Sound substitutions, omissions, distortions, and additions are all observed. The most frequent misarticulations are substitutions and omissions.
- Articulation errors and struggle behaviors increase as the length and complexity of the target word, phrase, or sentence increases.
- Speech production is variable. It is common for a person with apraxia of speech to produce a sound, syllable, word, or phrase correctly on one occasion and then incorrectly on another. It is also common to observe several different misarticulations for the same target sound.
- Struggling behaviors (such as groping to position the articulators correctly) are observed in many patients with apraxia of speech.
- Automatic speech activities (such as counting to 10 or naming the days of the week) tend to be easier and more error-free than volitional speech. Reactive speech (such as "thank you" or "I'm fine") is also easier for students with apraxia of speech to produce.
- Metathetic errors (errors of sound or syllable transposition) are common. For example, the student may say *snapknack* for *knapsack* or *guspetti* for *spaghetti.*

1 1Darley (1982); Darley, Aronson, and Brown (1975); Duffy (1995); Haynes (1985); Rosenbek 0985); Rosenbek. Kent, and LaPointe (1984); Shipley, Recor, and Nakamura (1990). Assessment in Speech-Language Pathology CD ROM Copyright 0 1998 by Singular Publishing Group.

- "Syllable collapses" may occur. Syllable collapses are not commonly reported in the literature, but are a common characteristic. The student reduces and/or disrupts the number of syllables in motorically complex words or phrases. For example, a student might say *glost gers* for *Los Angeles Dodgers* or *be neers* for *Tampa Bay Buccaneers.* In both examples, the number of syllables is collapsed and the remaining syllables are inaccurately produced.

- Receptive language abilities are often, but not always, superior to expressive abilities. However, the language skills are separate from the apraxia.

- People with apraxia of speech are usually aware of their incorrect articulatory productions. Therefore, they may be able to identify many of their own correct and incorrect productions without feedback from the Speech-Language Therapist.

- Apraxia of speech can occur in isolation or in combination with other communicative disorders such as dysarthria, delayed speech or language development, aphasia, and/or hearing loss.

- Oral apraxia and/or limb apraxia may or may not be present with apraxia of speech. Frequently an individual with oral apraxia will also have apraxia of speech.

- Severity varies from student to student. Some students cannot volitionally produce a target vowel such as */a/,* and others exhibit speech that is fine until they attempt to produce motorically challenging phrases such as *statistical analysis* or *theoretical implications.*

Identifying Apraxia of Speech[1]

Name: _____ Age: ____ Date: _____ Examiner: _____

Instructions: Evaluate each behavior in automatic speech, spontaneous speech, and oral reading. Mark a plus (+) if the child has no difficulty. Use the severity scale if the child does exhibit problems with production. Add comments on the right-hand side as needed.

1 = mild difficulties
2 = moderate difficulties
3 = severe difficulties

Automatic Speech	Oral Reading	Spontaneous Speech	Comments
			• phonemic anticipatory errors (e.g., *kreen crayon* for *green crayon*) _____
			• phonemic perseravatory errors (e.g., *babyb* for *baby*) _____
			• phonemic transposition errors (e.g., *snapknack* for *knapsack*) _____
			• phonemic vowel errors (e.g., *Paul* for *ball*) _____
			• phonemic vowel errors (e.g., *might* for *meet*) _____
			• visible or audible search _____
			• numerous and varied off-target attempts _____
			• highly inconsistent errors _____
			• errors increase with phonemic complexity _____
			• fewer errors in automatic speech _____
			• marked difficulties initiating speech _____
			• intrudes a schwa sound /ə/ _____
			• abnormal prosodic features _____
			• awareness of errors with reduced ability _____
			• receptive-expressive language gap _____

[1] Adapted from B. Dabul, Apraxia Battery for Adults. Austin, TX: PRO-ED. Copyright © 1986 and used by permission. Assessment in Speech-Language Pathology CD ROM, 1998 Singular Publishing Group

Checklist for the Assessment of Children with Clefts[1]

Name: _____ Age: _____ Date: _____
Primary care physician: _____
Type of cleft: _____
Date of surgery: _____
Other conditions and medical history: _____
_____
_____
Examiner: _____

Oral-Facial Examination

Instructions: Administer a standard oral-facial examination. Additionally, make observations about the following oral-facial features. Check and circle each item noted. Include descriptive comments in the right-hand margin

Comments

_____ Type of cleft: lip/palate/lip and palate (describe) _____
_____ Adequacy of cleft repair: good/fair/poor _____
_____ Other facial abnormalities: absent/present (describe) _____
_____ Submucosal cleft: absent/present _____
_____ Labial pits in lower lip: absent/present _____
_____ Labiodental fistulas: absent/present _____
_____ Alveolar fistulas: absent/present _____
_____ Palatal fistulas: absent/present _____
_____ Velar fistulas: absent/present _____
_____ Perceived length of velum: normal/short/long _____
_____ Shape of the alveolar ridge: notched/cleft/wide/collapsed _____

Notes from standard oral-facial examination _____
_____
_____
_____
_____
_____
_____

[1] Assessment in Speech-Language Pathology. Singular Publishing Group

Checklist for the Assessment of Children with Clefts

(Continued-pg.2)

Assessment of Voice

Instructions: Evaluate the child's voice, paying particular attention to possible cleft-related problems. Check deficits that are present and indicate severity. Record all additional notes in the right-hand margin.

1. = mild
2. = moderate
3. = severe

Comments

_____ Pitch variation is reduced. _____

_____ Vocal intensity is reduced. _____

_____ Vocal quality is hoarse/harsh/breathy (circle). _____

_____ Vocal quality is strangled. _____

_____ Child produces glottal stops in place of plosives and fricatives. _____

_____ Child attempts to mask hypernasality and nasal emission. _____

_____ Child strains voice to achieve adequate pitch change and loudness. _____

_____ Child strains voice in attempt to increase speech intelligibility. _____

Assessment of Resonance and Velopharyngeal Integrity

Instructions: Evaluate the child's voice, listening for the following qualities of resonance. Check each characteristic the child exhibits and indicate severity. Record all additional notes in the right-hand margin.

1 = mild
2 = moderate
3 = severe

Comments

_____ Hypernasality _____

_____ Nasal emission_____

_____ Cul-de-sac resonance _____

_____ Hyponasality _____

Checklist for the Assessment of Children with Clefts

(Continued-pg.3)

Instructions: Instruct the child to complete the Modified Tongue Anchor Procedure. Check your observation below:

_____ Velopharyngeal function is adequate (no nasal omission).

_____ Velopharyngeal function is adequate (nasal emission present).

_____ Further testing using objective instrumentation is necessary.

Instructions: Ask the child to produce the pressure /p/, /b/, /k/, /g/, /t/,/d/, /f/, /v/, /s/, /z/, /ʃ/, /ʒ/, /ʧ/, /ɵ/, and / ŏ / (see *The Pressure Consonants* for suggested stimulus words and phrases), and listen for hypernasality and nasal emissions. Check the appropriate observations below.

_____ Velopharyngeal function is adequate (no nasal emissions or hypernasality).

_____ Velopharyngeal function is inadequate (nasal emissions or hypernasality present).

_____ Further testing using objective instrumentation is necessary.

_____ Nasal emissions and hypernasality are consistent.

_____ Nasal emissions and hypernasality are inconsistent.

Assessment of Articulation and Phonology

Instructions: Listen to the child's articulatory accuracy. Pay particular attention to the child's production of stop-plosives, fricatives, and affricates, which are most likely to be negatively affected by a cleft. Indicate severity and make additional comments in the right-hand margin.

1. = mild
2. = moderate
3. = severe

Comments

_____ Stop-plosive errors _____

_____ Fricative errors _____

_____ Affricate errors _____

_____ Glide errors _____

_____ Liquid errors _____

_____ Nasal errors _____

_____ Vowel errors _____

_____ Error patterns are consistent _____

_____ Error patterns are inconsistent _____

_____ **Further assessment is recommended** _____

Checklist for the Assessment of Children with Clefts

(Continued-pg.4)

Instructions: Check the following compensatory strategies the child uses during speech production and indicate severity. Make additional comments in the right-hand margin.

_____ Glottal stops _____

_____ Pharyngeal stops _____

_____ Mid-dorsum palatal stops _____

_____ Pharyngeal fricatives _____

_____ Velar fricatives _____

_____ Nasal fricatives _____

_____ Posterior nasal fricatives _____

_____ Nasal grimaces _____

Summary

Instructions: Check areas that require further assessment. Make additional comments in the right-hand margin.

Comments

_____ Articulation—Cleft-related _____

_____ Articulation—Non-cleft-related _____

_____ Cognition _____

_____ Hearing _____

_____ Language _____

_____ Velopharyngeal integrity _____

_____ Voice _____

SECTION THREE

Voice

Definition

"A voice disorder occurs when voice quality, pitch, and loudness differ or are inappropriate for an individual's age, gender, cultural background, or geographic location. A voice disorder is present when an individual expresses concern about having an abnormal voice that does not meet daily needs—even if others do not perceive it as different or deviant". (ASHA, 1993)

Description of Terms for Voice:

- Resonance: modification of energy/air as it passes through the three (3) cranial cavities: oral, nasal, pharyngeal.
- Intensity: refers to loudness, volume, or projection.
- Range: the distance between the student's lowest sustainable pitch to the highest sustainable pitch.
- Air supply: having the ability to take a normal tidal inspiration followed by speech, overlaid on an adequately controlled expiration.
- Rate: the number of words per minute spoken with a rate of 140-180 being regarded as satisfactory (average).
- Pitch: optimum pitch is 1/4 of the way from the bottom of the total pitch range; habitual pitch is the fundamental frequency most often used in everyday voice.
- Quality: hoarseness, breathiness, harshness and stridency.

Adapted from "Riverside County Special Education Local Plan Area" on 6/2017

Considerations

1. Voice assessment should be integrated with medical information.

2. Children with allergies and/or enlarged tonsils which affect vocal quality may be referred to the school nurse.

3. Voice **differences** may be handled on a collaborative basis and should be checked periodically. A voice **difference** is a distinguishable variance in pitch, loudness, and quality, such as:
    a. Episodic pitch change
    b. Acute laryngitis (i.e., screaming at a sporting event, viral infection)
    c. Voice differences related to a specific syndrome.

Student response to voice therapy should be communicated/reviewed with the medical professional who is following the student in alignment with the school's standard reporting period, or as needed.

Eligibility Criteria

A student will be considered to have a voice disorder when the following conditions are met:

1. A student has an abnormal voice that is characterized by persistent, defective voice quality, pitch, or loudness.

General Considerations for Exit

There are several factors for the IEP Team to consider when making decisions regarding exit from voice therapy. They are as follows:

1. The SLP's professional judgment indicates and assessment that the student's voice is within normal limits as related to age, gender and culture.
2. If no improvement is demonstrated, then the IEP team must reconvene and determine the appropriate next steps.
3. Other associated and/or disabling conditions prevent the student from benefiting from further therapy: e.g., dental abnormalities, allergies, velopharyngeal insufficiency, or inadequate physiological support for speech.
4. Persistent inappropriate vocal behaviors prevent the student from benefiting from continuing therapy.

VOICE RATING SCALE

OVERALL FUNCTIONAL LEVEL

Level 0 (0 – 3 points) No apparent problem	The student's voice consistently sounds normal and does not call attention to itself. The student's ability to participate in educational activities requiring low or high vocal demands is not limited by his/her voice. The student self-monitors vocal production as needed.
Level 1 (4 – 6 points) Mild	The student's voice occasionally sounds normal and is usually distracting to the listener. There is some situational variation. The student's ability to participate in educational activities requiring voice is rarely limited in low vocal demand activities, but occasionally limited in activities with high vocal demand. The student occasionally self-monitors.
Level 2 (7 – 9 points) Moderate	The student's voice is occasionally functional for communication but is consistently distracting to the listener. The student's ability to participate in educational activities requiring voice is usually limited to low vocal demand activities, but consistently limited in high vocal demand activities.
Level 3 (10 – 12 points) Severe	The student's voice is persistently abnormal. He/she may not be able to use his/her voice to communicate.

Speech Language Pathology Services in Schools: Guidelines for Best Practice

Virginia Department of Education, 2018.

VOICE SEVERITY RATING SCALE

	Factors	No Apparent Problem (0	Mild (1 pt)	Moderate (2 pts)	Severe (3 pts)	Points Assigned
A	Voice Quality (hoarse, breathy, no voice)	Normal voice quality	Inconsistent problems; noticeable to the trained listener.	Consistent problems in conversational speech. Noticeable to all listeners.	Persistent problem. Noticeable at all times.	
B	Resonance (hypernasal or hyponasal)	Normal resonance	Inconsistent problems; noticeable to the trained listener.	Consistent problems. Inappropriate for age, gender or culture. Noticeable to all listeners.	Persistent problem. Always inappropriate for age, gender or culture. Noticeable at all times.	
C	Loudness (judged for appropriateness and variability)	Normal loudness	Inconsistent problems; noticeable to the trained listener.	Consistent problems. Inappropriate for age, gender or culture. Noticeable to all listeners.	Persistent problem. Always inappropriate for age, gender or culture. Noticeable at all times.	
D	Pitch (judged for appropriateness for age and gender, and for appropriate variability)	Normal pitch.	Inconsistent problems; noticeable to the trained listener.	Consistent problems. Inappropriate for age, gender or culture. Noticeable to all listeners.	Persistent problem. Always inappropriate for age, gender or culture. Noticeable at all times.	

SECTION FOUR

Fluency

Definition

A **fluency disorder** is an interruption in the flow of speaking characterized by atypical rate, rhythm, and repetitions in sounds, syllables, words, and/or phrases. This may be accompanied by excessive tension, struggle behavior, and/or secondary mannerisms.

Eligibility Criteria

A student will be considered to have a fluency disorder when fluency difficulties result in an abnormal flow of verbal expression to such a degree that these difficulties adversely affect communication between the pupil and listener.

A student will be recommended for fluency therapy when a formal assessment indicates:

1. Frequency:
    a. At least 10 dysfluent words per 100 words with some atypical non-fluencies present;
    b. Part word (e.g., sound and/or syllable) repetitions with an average of 2-5 repetitions per word.
2. Duration:
    a. Prolongations, hesitations, and/or blocks with a duration of at least 1 second.
3. Intensity (as determined by speech therapist).
4. Secondary characteristics, such as facial grimaces.
5. Negative effects on communication, such as avoidance.

General Considerations

1. When developing a case history, the clinician may want to obtain information regarding:

    a. Teacher report/interview
    b. Child's self-report/interview
    c. Parent report/interview
    d. Development of child's dysfluencies over time
    e. Any previous history of therapy
    f. Changes in dysfluent behavior based on the audience, context and/or setting (Remember there is a certain degree of normal non-fluent behavior in young child. If this is the case, parent/teacher education and periodic monitoring may be the more appropriate strategy).

2. Note the adverse effect on the child's educational performance in the following areas:

    a. Oral reading
    b. Oral participation
    c. Reaction of self, parents, teachers and peers
    d. Social emotional adjustment

3. A rating scale from mild to severe on the Communication Severity Scale for Fluency (see Resources at end of this section)
4. Student's perception of his/her dysfluencies.
5. Perception of child's dysfluencies by others (parents, guardians, casual listeners).
6. Development of student's dysfluencies over time.
7. Changes in dysfluencies relative to setting, audience and contexts.
8. Family and/or student history, including therapy.
9. Normal non-fluencies may be present in very young children, and a diagnosis of a fluency disorder must be made carefully.
10. Preschool:

    a. 10% or more total dysfluencies with some atypical non-fluencies present (part-word repetitions, prolongations, hesitations, or blocks).
    b. Any sign of effort, struggle, or unwillingness to talk.
    c. Not improving over 6-9 month period after initial observation with suggestions given to parents/teachers.

11. In young children who are bilingual or second-language learners, stuttering may be noticed when:
    a. The child is mixing vocabulary (code mixing) from both languages in one sentence. This normal process helps the child increase his skills in the weaker language, but may trigger a temporary increase in disfluency.
    b. The child is having difficulty finding the correct word to express his/her ideas resulting in an increase in normal speech disfluency.

c. The child is having difficulty using grammatically complex sentences in one or both languages as compared to other children of the same age. In addition, the child may make grammatical mistakes. Developing proficiency in both languages may be gradual, so development may be uneven between the two languages.
d. Adding a second or third language between the ages of three and five years of age may cause stuttering to increase (become more severe). However, this may be the case only when: (1) the child's first language is not strong and/or the child is experiencing difficulties in her first language, (2) One language is used more than the other is or, (3) the child resists speaking the additional language.

Shenker, R. Stuttering and the Bilingual Child. http://www.stutteringhelp.org/stuttering-and-bilingual-child

Characteristics of Typical Disfluency and Stuttering

Differentiating typical disfluencies and stuttering is a critical piece of assessment, particularly for preschool children. Without proper intervention, children who exhibit signs of early stuttering are more at risk for continued stuttering. The chart below describes some characteristics of "typical disfluency" and "stuttering" (Adapted from Coleman, 2013).

Typical Disfluency	**Stuttering**
Speech Characteristics • Multisyllabic whole-word and phrase repetitions • Interjections • Revisions	Speech Characteristics • Sound or syllable repetitions • Prolongations • Blocks
Other Behaviors • No physical tension or struggle • No secondary behaviors • No negative reaction or frustration • No family history of stuttering	Other Behaviors • Associated physical tension or struggle • Secondary behaviors (e.g., eye blinks, facial grimacing, changes in pitch or loudness) • Negative reaction or frustration • Avoidance behaviors (e.g., reduced verbal output or word/situational avoidances) • Family history of stuttering

Coleman, C. (2013). *How can you tell if childhood stuttering is the real deal?* Available from http://blog.asha.org/2013/09/26/how-can-you-tell-if-childhood-stuttering-is-the-real-deal/

Communication Severity Scale for Fluency

Date _____
Student _____
Birthdate _____ Age ___

	No Apparent Problem/Discrepancy	Mild	Moderate	Severe
Analysis of Speech Sample* a. Frequency b. Duration	0 __ Frequency of dysfluent behavior is within normal limits for student's age, sex, and speaking situation(s) and/or less than 1 stuttered word per minute, or less than 2% dysfluency. ** __ Less than 1 second.	1 __ Transitory dysfluencies are observed in specific speaking situation(s) and/or 2-4 stuttered words per minute, or 2-8% dysfluency. __ Up to 2 seconds.	2 __ Frequent dysfluent behaviors are observed in many speaking situation(s) and/or 5-10 stuttered words per minute, or 9-20% dysfluency. __ 3-9 seconds.	3 __ Habitual dysfluent behaviors observed in majority of speaking situation(s) and/or > 10 stuttered words per minute, or > 20% dysfluency. __ 10 seconds or more.
Descriptive Assessment	0 Speech flow and time patterning are within normal limits. Developmental dysfluencies may be present. **	1 Sound, syllable, and/or word repetitions or prolongations are present, with or without mild secondary characteristics. Fluent speech periods predominate.	2 Sound, syllable, and/or word repetitions or prolongations are noticeable to casual listener. Secondary characteristics, including blocking, avoidance, and other physical concomitants, may be observed.	3 Sound, syllable, and/or word repetitions and/or prolongations are distracting. Secondary characteristics are frequent. Avoidance and frustration behaviors are observed.
Effect on Communication	0 The fluency of the student's speech does not interfere with social/emotional, educational, and/or vocational functioning. No listener and/or speaker reaction noted.	1 The fluency of the student's speech has minimal impact on social/emotional, educational, and/or vocational functioning. Minimal listener and/or speaker reaction noted.	2 The fluency of the student's speech interferes with social/emotional, educational, and/or vocational functioning. Some avoidance of selected speaking situations. Moderate listener and/or speaker reaction and concern noted.	3 The fluency of the student's speech seriously limits social/emotional, educational, and/or vocational functioning. Avoidance of speaking situations is observed. Severe listener and/or speaker reaction and concern noted.

*Recommended Procedure: Tape record speech sample of 150 words minimum for calculations. Average three longest blocks to determine duration.
** See Continuum of Dysfluent Behaviors.
IMPORTANT NOTE: Special consideration needs to be made for preschool or beginning stutterers. They should be monitored frequently and carefully if not enrolled for direct or indirect treatment.

Adapted from: The Communication Severity Scales (2006), North Coastal Consortium for Special Education, San Marcos, CA.

CALMS Rating Scale for School-Age Children Who Stutter

This rating scale is designed to evaluate cognitive, affective, linguistic, motor, and social (CALMS) components that are related to stuttering. It is recommended that clinicians base their clinical judgment on deriving a score for each item using scores and/or data from scales, tests, as well as documented evidence about the child being evaluated. Take the scores for each rated item and divide by the total number of items scored within each component to obtain an average score for each component. The average component scores become the data points for plotting the CALMS profile.

COGNITIVE: (Rating scale: 1= Normal, No Concern, High Ability 2= Borderline, Slight Concern, Good Ability 3 = Mild Impairment, Some Concern, Variable Ability 4= Moderate Impairment, Significant Concern, Poor Ability 5 = Severe Impairment, Extreme Concern, Very Poor Ability)

Recommended items to be rated:

1. *Child's ability to identify moments stuttering during reading* **Measure**: % of moments identified from a reading passage or material that is easy for the child to read	1	2	3	4	5
2. *Child's ability to identify moments of stuttering in spontaneous speech* **Measure:** % of moments identified in a short spontaneous speech sample	1	2	3	4	5
3. *Child's knowledge and understanding of stuttering* **Measure:** Rate child's ability to describe stuttering behaviors, knowledge of his/her stuttering behaviors, and general facts about stuttering (T/F test)	1	2	3	4	5
4. *Child's knowledge of previously learned fluency enhancing and/or stuttering modification techniques* **Measure:** Assess how well the child can describe, explain, and demonstrate any technique he/she has been taught to use in previous therapy.	1	2	3	4	5

Other subjective measures might include child's thoughts about being a person who stutters and reactions to How others view his/her stuttering[a]

Average Cognitive Component Score:_____

[a] When evaluating thoughts and perceptions, a rating of "1" refers to positive thoughts/ no concerns about being a person who stutters and positive perceptions of how others view stuttering. A rating of "5" reflects extremely negative thoughts, reactions or perceptions. Use ratings 2-4 to reflect varying degrees of positive/negative thoughts and reactions.

AFFECTIVE: (Rating scale: 1= Normal, No Concern, High Ability 2= Borderline, Slight Concern, Good Ability 3 = Mild Impairment, Some Concern, Variable Ability 4= Moderate Impairment, Significant Concern, Poor Ability 5 = Severe Impairment, Extreme Concern, Very Poor Ability)

Recommended items to be rated:

1. *Child's attitudes and feelings about communication*[a] 1 2 3 4 5
   Measure: Communication Attitudes Test (CAT or CAT-R)…record score and compare to norms.

2. *Affective features of the child's stuttering*[b]

   - Labels child uses for attitudes/feelings about stuttering 1 2 3 4 5
     Measure: "Framing My Speech" (C & R workbook)…this form could be used to count the number and types of words used to describe stuttering

   - Child's feelings about stuttering 1 2 3 4 5
     Measure: "What Pops" and/or "What's True For You?" (C & R workbook) "What Pops" could be used to determine the % of the 20 items that relate to negative comments about stuttering. "What's True…could rate this item based on child's scores on all questions. Hands Down!...allows child to list postive and negative attributes about him/herself

   - Child's feelings and reactions to teasing/bullying about stuttering
     Measure: Level of concern expressed by child 1 2 3 4 5

Average Affective Component Score:_____

[a] Use of the Communication Attitudes Test (CAT or CAT-R) and/ or A-19 scales requires comparison of child's score with normative data supplied with each measure. We recommend that if the child who stutters (CWS) has a score that equals the mean for CWS, then that score would be rated at least a "3" on the CALMS rating scale. [For CWS the CAT Mean=17.3, SD=7.7 and A-19 Mean=9.07, SD=2.44]. Scores between 1 & 2 standard deviations from the mean score for CWS would be rated a "4" and a score of more than 2 standard deviations would be rated a "5."

[b] Several paper-pencil tasks suggested by Kristin Chmela and Nina Reardon (2001) *The School-Age Child Who Stutters: Working Effectively With Attitudes and Emotions…A Workbook* (pp. 22-86) can be used in this section. This workbook is published by the Stuttering Foundation (1-800-992-9392). Child Client Forms in *Crowe's Protocols* (T. Crowe, A, Di Lollo, & B. Crowe (2000) The Psychological Corporation) also can be used.

LINGUISTIC: (Rating scale: 1= Normal, No Concern, High Ability 2= Borderline, Slight Concern, Good Ability 3 = Mild Impairment, Some Concern, Variable Ability 4= Moderate Impairment, Significant Concern, Poor Ability 5 = Severe Impairment, Extreme Concern, Very Poor Ability)

Recommended items to be rated:

1. Overall relationship between stuttering and the length and complexity of utterances: **Measure:** Assess level of fluency/stuttering during simple oral reading, naming, sentence repetition, picture description, and story retelling [a]	1	2	3	4	5
2. Overall language ability **Measure:** Informal or formal assessment)[b]	1	2	3	4	5
3. Articulation and/or Phonological ability **Measure:** Informal or formal assessment)[c]	1	2	3	4	5

Average Linguistic Component Score: _____

[a] See recommended list of speech tasks for measuring the impact of linguistic complexity on frequency of stuttering. Go to www.unl.edu/fluency/index.shtml for list of simple to complex, contextualized and decontextualized speech tasks. The rating for this item will depend on the level of linguistic length and complexity where fluency disruptions occur consistently (e.g., a rating of "1" would indicate that stuttering only occurs at the highest level of linguistic difficulty and a "5" would be a rating for stuttering consistently at simple linguistic levels or where the child needs considerable contextual support).

[b] Select formal language tests for this section. Rate level of impairment.

[c] Select a formal test for articulation/phonological process analysis. Rate level of impairment

MOTOR: (Rating scale: 1= Normal, No Concern, High Ability 2= Borderline, Slight Concern, Good Ability 3 = Mild Impairment, Some Concern, Variable Ability 4= Moderate Impairment, Significant Concern, Poor Ability 5 = Severe Impairment, Extreme Concern, Very Poor Ability)

Recommend Items to be rated:

1. *Characteristics of the child's stuttering*

Measure: Document number of units per repetition, duration of typical prolongation, etc. and rate level of impairment relative to the severity of stuttering	1	2	3	4	5
Measure: Degree of struggle, effort, tension produced during stuttered moments	1	2	3	4	5

2. *Frequency of stuttering with various communicative partners*

Measure: Sample with classroom teacher	1	2	3	4	5
Measure: Sample with peers	1	2	3	4	5
Measure: Sample with clinician	1	2	3	4	5

3. *Determination of stuttering severity using the SSI-3*[a]	1	2	3	4	5

Measure: Stuttering frequency in oral reading and spontaneous speech,
The duration of the three longest stuttered moments, and the presence of physical
Concomitants (secondary coping behaviors)

Average Motor Component Score:_____

[a] The SSI-3 (Stuttering Severity Instrument-3, Riley 1994- PRO-ED) should be used to record a rating that reflects the <u>total SSI-3 score</u>: (**1**= 0-5) (**2**= 6-10) (**3**=11-20) (**4**=21-27) (**5**= 28+).

SOCIAL: (Rating scale: 1= Normal, No Concern, High Ability 2= Borderline, Slight Concern, Good Ability 3 = Mild Impairment, Some Concern, Variable Ability 4= Moderate Impairment, Significant Concern, Poor Ability 5 = Severe Impairment, Extreme Concern, Very Poor Ability)

Recommended items to be rated:

1. *Reported avoidance of speaking situations*
   Measure: Reports from child, parent, teachers about number and severity of avoidance of words, people, and speaking situations 1 2 3 4 5

2. *Level of stuttering related to various social speaking situations*:
   Measure: Child's ability to express him/herself in a variety of speaking situations that occur at school, home, with sports teams, at clubs, etc.. For example, 1= child talks freely in most situations…5= child limits speaking to specific situations 1 2 3 4 5

3. *Impact of stuttering on peer relationships*
   Measure: Report from child and parent about how much the child's stuttering is affecting the friendships or interaction with peers. 1 2 3 4 5

Average Social Component Score:_____

Quantification of 1-5 Value for the CALMS Rating Scale

1 = Normal: Function is considered within normal limits in terms of behavior, performance, ability, attitude or perception. There are no concerns about function or performance. Test data are well within normal limits.

2 = Borderline: Slight variation or some concern about behaviors, performances, abilities, attitudes or perceptions. Test data show standard score of .5 to 1.4 SD below normal level

3 = Mild Impairment: Clinical judgment suggests a "mild" degree of difficulty or deficit in certain functions. Also suggests that behaviors, performances, abilities, attitudes or perceptions are just below expected levels of function. Mild concern about function or performance. Test data show standard score of 1.5 - 1.9 SD below normal level.

4 = Moderate Impairment: Clinical judgment suggests a "moderate" degree of difficulty in certain functions. Also suggests that behaviors, performances, abilities, attitudes or perceptions are consistently below expected levels of function. Test data show standard score of 2.0 – 2.4 SD below normal level. Significant concern about function and performance.

5 = Severe Impairment: Clinical judgment suggests a "severe" degree of difficulty in certain functions. Also suggests that behaviors, performances, abilities, attitudes or perceptions are substantially below expected levels of function. Exceptional concern about function or performance. Test data show standard score of > 2.5 SD below normal level.

C.A.L.M.S. Profile

Client:

Age:

Date of Profile:

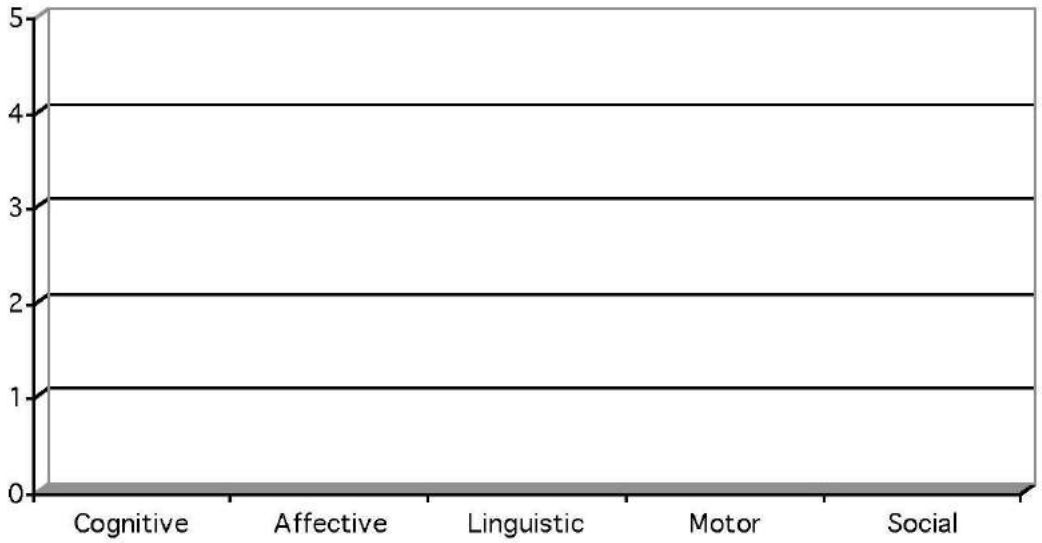
Scores: Cognitive: _____

Affective: _____

Linguistic: _____

Motor: _____

Social: _____



https://www.stutteringtherapyresources.com/store/category/oases

SECTION FIVE

Language

Definition

LANGUAGE DISORDER is the impaired comprehension and/or use of spoken, written, and/or alternative communication system (sign language or symbol system). The disorder may involve:

1. Form of Language

    - PHONOLOGY is the sound system of a language and the rules that govern the sound combination.
    - MORPHOLOGY is the system that governs the structure of words and the construction of word forms.
    - SYNTAX is the system governing the order and combination of words to form sentences, and the relationships among the elements within a sentence.

2. Content of Language

    - SEMANTICS is the system that governs meanings of words and sentences.

3. Function of Language

    - PRAGMATICS is the system that combines the above language components in functionally and socially appropriate communication.

ELIGIBILITY CRITERIA

Morphology, Syntax, Semantics, or Pragmatics

Per 5 CCR § 3030 (B) (11) (D), the pupil has an expressive or receptive language disorder when he or she meets one of the following criteria:

1. The pupil scores at least 1.5 standard deviations below the mean, or below the 7th percentile, for his or her chronological age or developmental level on two or more standardized tests in one or more of the following areas of language development: morphology, syntax, semantics, or pragmatics. When standardized tests are considered to be invalid for the specific pupil, the expected language performance level shall be determined by alternative means as specified on the assessment plan, OR

2. The pupil scores at least 1.5 standard deviations below the mean or the score is below the 7th percentile for his or her chronological age or developmental level on one or more standardized tests in one of the areas listed in subdivision (A) [morphology, syntax, semantics, or pragmatics] and displays inappropriate or inadequate usage of expressive or receptive language as measured by a representative spontaneous or elicited language sample of a minimum of 50 utterances. The language sample must be recorded or transcribed and analyzed, and the results included in the assessment report. If the pupil is unable to produce this sample, the language, speech, and hearing specialist shall document why a fifty utterance sample was not obtainable and the contexts in which attempts were made to elicit the sample. When standardized tests are considered invalid for the specific pupil, the expected language performance level shall be determined by alternative means as specified in the assessment plan.

<u>Chronological Age vs Developmental Level to Determine Eligibility</u>

The California Code of Regulations Title 5 allows for a comparison between a student's language performance level and either his/her chronological age or "developmental level" in establishing eligibility under the language disorder criterion. For students whose developmental level is not commensurate with chronological age, local guidelines encourage the use of developmental level as the more appropriate criterion against which language development is judged because developmental level better reflects achievement potential.

There is no definition of "developmental level" in either CCR Title 5 or in the Education Code, and the term is not strictly synonymous with "intellectual ability", which is used in five CCR § 3030(b) (10), addressing specific learning disabilities. Developmental level encompasses intellectual or cognitive as well as psychomotor and physical development. A reasonable assessment of developmental level would then involve measurement of the student's intellectual ability (both verbal and non-verbal) as well as adaptive and motor behaviors, and making a determination as to which standard score(s) is/are most reflective of the student's developmental level.

The relative technical merit of intelligence tests in comparison with tests which measure other specific developmental abilities suggest that it will usually be an IQ (intelligence quotient) which provides the best estimate of developmental level. Significant deviations in scores within and between tests (e.g., verbal vs non-verbal intelligence, intelligence vs adaptive behaviors) indicate the need for extreme care in selecting the score, which best represents divergent levels of functioning. Thoughtful discussion between the SLP and the school psychologist will be needed.

When Intelligence Scores are Available

For students who have verified intelligence scores within the average range (i.e., IQ 90-109), scores on language tests, which fall below the 7th percentile, can be used to establish eligibility. The SLP also has the option of using a discrepancy formula to establish eligibility.

For students with a verified intelligence score between 76 and 89, the developmental level of the individual child will usually be the criterion against which his/her language performance is compared, and the assessing specialist will follow procedures for calculating whether the student's language performance falls at least 1.5 standard deviations below their developmental level.

Calculating Discrepancy to Determine Eligibility

The decision as to whether or not a severe discrepancy exists shall take into account all relevant material, which is available on the pupil. No single score or product of scores, test or procedure shall be used as the sole criterion for the decisions of the IEP team as to the pupil's eligibility for special education. In determining the existence of a severe discrepancy, the IEP team shall use the following procedures:

1. When standardized tests are considered valid for a specific pupil, a severe discrepancy is demonstrated by first, converting into common standard scores. Using a mean of 100 and standard deviation of 15, the achievement test score and the intellectual ability test score are to be compared. Second, computing the difference between these common standard scores. Third, comparing this computed difference to the standard criterion, which is the product of 1.5 multiplied by the standard deviation of the distribution of computed differences of students taking these achievement and ability tests. A computed difference which equals or exceeds this standard criterion, adjusted by one standard error of measurement, the adjustment not to exceed 4 common standard score points, indicates a severe discrepancy when such discrepancy is corroborated by other assessment data which may include other tests, scales, instruments, observations and work samples, as appropriate.

GENERAL CONSIDERATIONS

There are a number of factors to consider when making a determination of whether or not language therapy is appropriate. These factors can also influence decisions regarding the choice of assessment procedures and instruments used to identify language disorders. They are as follows:

1. Developmental level of functioning.
2. Social-emotional functioning.
3. Degree of remediation available through other school resources.
4. Atypical language associated with other disabling conditions, such as autism.

5. For deaf/hard of hearing students using a total communication approach, the student demonstrates difficulties acquiring language skills as compared to other deaf/hard of hearing students and his/her needs cannot be fully met by classroom teacher or other service providers.

6. Pertinent Considerations for English Learners

   a. Review student's current English Language Proficiency Assessment for California (ELPAC) or alternative language assessment scores.

   b. When standardized measures are used, the SLP must consider whether the assessment tool is culturally and linguistically appropriate. Best practice is to determine the child's language for assessment.

   c. http://www.cde.ca.gov/sp/el/er/documents/eldstndspublication14.pdf

   The California English Language Development Standards (Chapter 1, page 8-9) has indicated that California's English Learner Students ELs come to California schools from all over the world, and from within California. They come with a range of cultural and linguistic backgrounds, experiences with formal schooling, levels of native language and English literacy, immigrant experiences, and socioeconomic levels, as well as other experiences in the home, school, and community. How educators support ELs to achieve school success through the CA ELD Standards and the academic content standards depends on educators' understanding of the following key factors:

   1. Stages of cognitive development - It is important to note the stages of ELs' cognitive development. Students in the primary grades are "learning to read" while also engaging in challenging content learning. In contrast, students in the intermediate and secondary grades are "reading to learn" in various content areas. ELs entering kindergarten, for example, will benefit from participation in the same instructional activities in literacy as their non-EL peers, along with additional differentiated support based on student need. EL students who enter California schools in the secondary grades may need additional support (depending on the level and extent of previous schooling they have received) to

master certain linguistic and cognitive skills and thus fully engage in intellectually challenging academic tasks.

2. Native language literacy - Adolescent ELs who enter California schools after the primary grades have different levels of native language foundations in literacy. All students can draw upon knowledge of oral vocabulary and structures (e.g., recognition of cognates) to inform their English language learning to some extent, depending on their oral proficiency in the native language and how closely their native language is related to English. Students with established literacy in their native language and content knowledge can transfer these skills and knowledge to English with appropriate instructional support. (See chapter 6, "Foundational Literacy Skills for English Learners," for additional information.) Nevertheless, even with strong native language foundations, some adolescent ELs may still struggle to master disciplinary literacy, given the accelerated time frame in which they are expected to meet grade-level content-area expectations.

3. Long-term English learners - Many ELs may not have received the support they need to continually progress in English language development and academic subjects (typically English language arts), giving rise to the "long-term English learner" phenomenon. These long-term ELs have been schooled in the United States for six or more years but have not made sufficient linguistic and academic progress to meet redesignation criteria and exit English learner status. Fluent in social/conversational English but challenged by literacy tasks, particularly disciplinary literacy tasks, these students find it difficult to engage meaningfully in increasingly rigorous course work. Long-term ELs face considerable challenges succeeding in school as the amount and complexity of the academic texts they encounter rapidly increase. Regardless of the challenges ELs face, they are expected to achieve the same core academic standards as their non-EL peers.

4. The CA ELD Standards adopted in 2012 define three proficiency levels to describe performance for General Education and ELD program instruction: Emerging, Expanding, and Bridging. These levels are intended to serve instructional purposes and do not necessarily represent the full range of performance levels in English language proficiency that may be determined by a standardized ELD assessment. A rigorous standard-setting process applied to actual assessment results may identify a different number of performance levels at various cut points along the proficiency level continuum; it is these performance levels that will be used to support determinations of placement, progress, and redesignation of ELs for diagnostic and accountability purposes

It is important for the SLP to rule out ELD and accurately identify an expressive and/or receptive language disorder.

c. Accented English or dialectic are not speech/language disorders and accent/dialect correction is not an appropriate speech/language service, as they are not recognized in state eligibility guidelines.

d. Educational, cultural, economic, or environmental deprivation does not constitute a language disorder, according to state eligibility guidelines.

7. Considerations for assessing African American or Black students
   The Larry P. v. Riles (1979, 1986, & 1992) court hearings are the basis for law that disallows the administration of standardized intelligence quotient (IQ) tests to students who are African American or black. This case determined that intelligence tests administered to students who are African American or black are culturally biased within the meaning of EC § 56320(a). Parental consent or waivers will not undo that bias. When a student is identified as multi-racial, and one of those races is black, or the student looks to be black, he or she must be considered African American for testing purposes (CDE, 2014).

   Given that standardized intelligence testing (which includes any measures of cognition, mental ability or aptitude) is discriminatory to students identified as African American and federal and state special education law prohibit use of discriminatory tests, standardized intelligence tests should not be given for any special education purpose to this subgroup, even if the tests considered do not appear on either list generated by the courts (CDE, 1992, 1997, 2014).

   To ensure compliance with the Larry P. mandate, SLPs should avoid using assessment tools that are normed on IQ tests as well as tools that fall in the "grey area" (e.g., tests that are validated with other language tests validated with IQ tests) (T.Wyatt, 2016). There are no lists of approved tests from CDE, CASP, or any other agency or entity that may be used that measure anything pertaining to any areas of cognition.

   The Santa Barbara County SELPA supports the use of an alternate means of identifying a student's learning strengths and weaknesses. A comprehensive alternative assessment consists of five procedural categories used to gather information in five critical learning domains. The five procedural categories consist of a review of records, observations, interviews, informal assessment, and formal assessment with the five critical learning domains assessed are reasoning, executive functioning, visual-spatial skills, social cognition, and language. The student's profile and assessment report is then shared with the IEP team to determine eligibility for special education services.

   "Practice Guidelines for the Assessment of the African American Child" from the CSHS Task Force on the Assessment of the African American Child

SECTION SIX

Students with Moderate to Severe Disabilities

GENERAL CONSIDERATIONS

Students with severe/profound disabilities have significant difficulties and delays in communication skills, which are among the most essential of basic skills necessary for participation in activities at school, home, and within the community. The following guidelines are designed to assist program coordinators, speech and language pathologists (SLP), classroom teachers, parents and other Individualized Education Plan team members in determining how to best provide for the communicative needs of each student.

1. Discrepancy between language age, cognition and other developmental levels
2. Chronological age
3. Communicative intent
4. Potential for change or growth
5. Frustration and concern due to communicative difficulties
6. Readiness for assistive/augmentative communication, including:
    a. Positioning
    b. Range accuracy and strength of movements
    c. Mode of access
    d. Level of representation (object, photograph, line drawing)
    e. Communication partners
    f. Message needs and content
    g. Cognitive, language and speech levels of performance
7. Present levels of functional communication skills and abilities at school, at home, in the community and/or in the vocational setting
8. Caregiver involvement

The IEP Team will address the communicative needs of each student served under Models I and II. Information will be documented in the student's IEP. A communication profile may be used to document the student's current levels of functioning and progress under Service Models III and IV. Service delivery models are described in Section I in these guidelines.

ASSESSMENT CONSIDERATIONS

In conjunction with standardized assessments, an alternative assessment may be considered for students for which whom standardized assessment is not valid. The Southern California Ordinal Scales of Development (SCOSD) would be an appropriate alternative to standardized assessment. According to Zilprint (2017), the SCOSD is effective with all children and especially useful for students who present as developmentally delayed. This assessment gives a description of the student's level of functioning, but does NOT give an IQ/Mental age.

The Ordinal Scales have a flexible administration and are criterion referenced, which allows for a subjective interpretation of results. The Ordinal Scales focus on the quality of the response, and the assessor is able to be flexible with materials. There is a total of six scales that include: cognition, communication, social-affective, fine motor, gross motor, and practical abilities.

The Ordinal Scales are divided into Piaget's stages of development:

- Sensorimotor (birth- 2 years)
    - 6 stages
- Preoperational (2-7 years)
    - 2 stages
- Concrete Operational (7-11 years)
- Formal (11 years and up)

ADDITIONAL CONSIDERATIONS FOR EXIT

1. Language skills are currently at a level for which reinforcement and monitoring in the classroom setting is the most appropriate level of service, in order to achieve carry-over and functional usage.

2. Student successfully uses Augmentative Alternative Communication (AAC) devices or systems.

3. There is a lack of significant progress after at least three years of therapy according to therapist's charting/testing or IEP goal completion.

4. Student demonstrates behaviors that actively interfere with therapeutic gains on a consistent basis, such as lack of cooperation, refusal to participate, or chronic absenteeism.

Guidelines for Meeting the Communication Needs of Persons With Severe Disabilities

National Joint Committee for the Communicative Needs of Persons With Severe Disabilities

The following guidelines were developed by the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities and approved by the American Speech-Language-Hearing Association (ASHA) Legislative Council (LC 49–91) in November 1991. Joint Committee members who prepared this statement include the following: American Speech-Language-Hearing Association (ASHA) - James McLean (chair), Patricia Porter, and Diane Paul-Brown, ex officio; American Association on Mental Retardation - Mary Ann Romski; American Occupational Therapy Association - Barbara Chandler and Jane Rourk; American Physical Therapy Association - Claire McCarthy; Council for Exceptional Children, Division for Children With Communication Disorders, Lee Snyder-McLean; The Association for Persons with Severe Handicaps - Philippa Campbell, Joseph Reichle, and Kathleen Stremel; United States Society for Augmentative and Alternative Communication - Patricia Mirenda and David Yoder. Diane Eger, 1990–1992 vice president for professional affairs, was the ASHA monitoring vice president.

Introduction

History

In 1984, the Council of Language, Speech, and Hearing Consultants in State Education Agencies initiated efforts to develop national guidelines for developing and implementing educational programs to meet the needs of children and youth with severe communication disabilities. These efforts culminated in a national symposium, Children and Youth with Severe Handicaps: Effective Communication, that was jointly sponsored by the U.S. Department of Education's Office of Special Education Programs, (OSEP) and the Technical Assistance Development System (TADS) of Chapel Hill, North Carolina. This symposium was held in Washington, DC, August 19–21, 1985, and involved professionals from state and local education agencies and universities across the nation—most of whom were directly involved in developing or implementing communication intervention programs for children and youth with severe disabilities.

The product of this symposium (OSEP/TADS, 1985) consisted of 33 "consensus statements" that put forth assumptions and recommendations considered basic to the provision of adequate and appropriate services to meet the communication needs of children with severe disabilities. Some of these consensus statements reiterated philosophical and action statements already stated in Public Law 94–142; others added texture and specifics to actions specified in the law.

The symposium participants recognized the need for interdisciplinary efforts in this overall service domain. One of the symposium recommendations was that the American Speech-Language-Hearing Association (ASHA) and The Association for Persons with Severe Handicaps (TASH) "be asked to coordinate an interagency task force for the preparation and dissemination of statements setting forth the parameters of responsibility for the development and enhancement of functional communication behavior of severely handicapped children and youth" (OSEP/TADS, 1985, p. III.6). In 1986, then, ASHA and TASH organized the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities and issued invitations to other organizations to appoint representatives to the committee.

The National Joint Committee for the Communicative Needs of Persons With Severe Disabilities

The purpose of the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities is to promote research, demonstration, and educational efforts, including both inservice and preservice education, directed to helping persons with severe disabilities communicate effectively. The interdisciplinary composition of this committee reflects the pervasive importance of communication in all spheres of human functioning and across traditional disciplinary boundaries. The shared commitment to promoting effective communication by persons with severe disabilities thus provides a common ground on which the

Reference this material as follows:

National Joint Committee for the Communicative Needs of Persons With Severe Disabilities. (1992). Guidelines for Meeting the Communication Needs of Persons With Severe Disabilities. *Asha, 34* (March, Supp. 7), 1–8.

disciplines represented by the member organizations can unite in their efforts to improve the quality of life of such persons.

Guidelines

The joint committee took as its first task the amplification of the basic assumptions and recommendations reflected in the consensus statements issued by the OSEP/TADS 1985 symposium. The amplification took the form of guidelines for meeting the communication needs of persons with severe disabilities, including persons with severe to profound mental retardation, autism, and other disorders that result in severe socio-communicative and cognitive communicative impairments. Indeed, the need for such guidelines is underscored by the fact that there are approximately 2 million Americans who are unable to speak or who demonstrate severe communication impairments, but there is a shortage of trained personnel to serve them. Few personnel preparation programs address the communication needs of persons with severe disabilities.

The guidelines presented here have three aspects. First, they state clearly the philosophy that undergirds current efforts to provide intervention services appropriate to the communication needs of persons with severe disabilities. Second, they focus on current best practices in intervention for persons with severe disabilities. Third, they identify the substance and the professional competencies that are necessary for an interdisciplinary team to implement the philosophy and best practices.

Introduction: ASHA Members

ASHA members will realize that these guidelines are but one of several efforts by ASHA to keep its members informed about the provision of appropriate communication intervention to an expanding clinical constituency. For example, the ASHA Committee on Language (1991) recently published "Guidelines for Speech-Language Pathologists Serving Persons With Language, Socio-Communicative, and/or Cognitive-Communicative Impairments." In this article, the Committee on Language reviewed ASHA's recent history in the publication of position statements and guidelines that help to ensure that its members are philosophically and substantively prepared to serve the ever-growing population of persons with severe and pervasive communication impairments. As the article noted, previous ASHA statements and guidelines have included attention to persons without speech (ASHA Ad Hoc Committee on Communication Processes and Nonspeaking Persons, 1981), persons with mental retardation (ASHA Committee on Mental Retardation/Developmental Disabilities, 1982), persons with cognitive-communicative impairments (ASHA Committee on Language, Subcommittee on Cognition and Language, 1987), and persons in need of augmentative and alternative communication (AAC) systems (ASHA Committee on Augmentative Communication, 1989). In the most recent article, the ASHA Committee on Language (1991) reviewed the knowledge bases and skills required of speech-language pathologists serving persons with language, socio-communicative, and/or cognitive-communicative impairments in early childhood, at school-age, and as adults. The extensive list of knowledge bases and skills offered in these guidelines testifies to the profound nature of the communication impairments that speech-language pathologists are being called on to manage in cooperation with representatives of other educational and rehabilitative disciplines.

The guidelines offered here by the National Joint Committee for the Communicative Needs of Persons With Severe Disabilities is an attempt to further inform the members of the constituent associations about current philosophies, intervention practices, and knowledge bases specific to the treatment of communicative impairments among persons with severe disabilities. These guidelines complement the guidelines issued by ASHA's Committee on Language in that they specify the status of current philosophy, intervention practices, and knowledge needs in the domain of persons with severe disabilities. Thus, for speech, language, and hearing professionals, these guidelines set the applied context in which the competencies recently described by the Committee on Language are operationalized.

Philosophy Statement

Recent legislation and litigation have required the provision of expanded educational and residential options for persons with severe disabilities. Underlying and supplementing these legal mandates are equally compelling moral and philosophical mandates for efforts to improve the overall quality of life of such persons. Any consideration of quality of life must take into account the degree to which individuals can effectively communicate with, and thus be a full participant in, the human community in which they live. Communication is, then, both a basic need and a basic right of all human beings.

What is Communication?

Communication is any act by which one person gives to or receives from another person information about that person's needs, desires, perceptions, knowledge, or affective states. Communication may be intentional or unintentional, may involve conventional or unconventional signals, may take linguistic or nonlinguistic forms, and may occur through spoken or other modes.

Thus, all persons do communicate in some way; however, the effectiveness and efficiency of this communication vary with a number of individual and environmental factors. Further, some individuals with severe disabilities develop unconventional and socially inappropriate means to communicate, including aggressive acts toward themselves and others. It is the responsibility of all persons who interact with individuals with severe disabilities to recognize the communication acts produced by those individuals and to seek ways to promote the effectiveness of communication by and with those individuals.

A Communication Bill of Rights

All persons, regardless of the extent or severity of their disabilities, have a basic right to affect, through communication, the conditions of their own existence. Beyond this general right, a number of specific communication rights should be ensured in all daily interactions and interventions involving persons who have severe disabilities. These basic communication rights are as follows:

1. **The right to request desired objects, actions, events, and persons, and to express personal preferences, or feelings.**
2. **The right to be offered choices and alternatives.**
3. **The right to reject or refuse undesired objects, events, or actions, including the right to decline or reject all proffered choices.**

4. **The right to request, and be given, attention from and interaction with another person.**
5. **The right to request feedback or information about a state, an object, a person, or an event of interest.**
6. **The right to active treatment and intervention efforts to enable people with severe disabilities to communicate messages in whatever modes and as effectively and efficiently as their specific abilities will allow.**
7. **The right to have communicative acts acknowledged and responded to, even when the intent of these acts cannot be fulfilled by the responder.**
8. **The right to have access at all times to any needed augmentative and alternative communication devices and other assistive devices, and to have those devices in good working order.**
9. **The right to environmental contexts, interactions, and opportunities that expect and encourage persons with disabilities to participate as full communicative partners with other people, including peers.**
10. **The right to be informed about the people, things, and events in one's immediate environment.**
11. **The right to be communicated with in a manner that recognizes and acknowledges the inherent dignity of the person being addressed, including the right to be part of communication exchanges about individuals that are conducted in his or her presence.**
12. **The right to be communicated with in ways that are meaningful, understandable, and culturally and linguistically appropriate.**

Environmental Management

A commitment to the communication rights of persons with severe disabilities requires careful attention to and management of the physical and interpersonal environments in which such persons live, play, and work. Most basically, all such environments must allow, recognize, facilitate, enable, and respond to communication by individuals with disabilities. Further, these environments must reflect an expectation that all persons can and will communicate, regardless of the severity of their mental, physical, or sensory disabilities.

Communication Partners. To guarantee these communication rights for persons with severe disabilities requires the commitment and cooperation of all persons (employers, family members, friends, and staff members) with whom such persons interact daily. All of these individuals must be able to recognize and respond appropriately to the expressive communication produced by the person with severe disabilities with whom they interact, in whatever form that communication is expressed. These communication partners must also be able to provide communication input that is both perceptible and comprehensible to the individual with severe disabilities.

Collaborative Efforts. Further, it is evident that the ultimate achievement of such enabling communication environments will require the knowledge, skills, and experience of parents and of professionals from a variety of disciplines, including speech-language pathology, audiology, education, occupational therapy, physical therapy and other disciplines. It is equally evident that educational and therapeutic efforts directed toward promoting an individual's communicative effectiveness must be based upon and integrated into that individual's daily communication environments in a culturally sensitive manner and must involve all of that individual's communication partners.

Personnel Preparation. Finally, it is clear that the achievement of this level of interdisciplinary cooperation and collaboration, essential to the development of improved communication environments for persons with severe disabilities, will require major commitments of both preservice and ongoing inservice education resources. Current personnel preparation practices and policies are clearly inadequate to meet this need. At the most basic level, there is a need for more personnel in all disciplines who are educated and committed to deliver services to individuals who have severe disabilities. Beyond this, there is a need to enhance the substance of both preservice and inservice education for such personnel. Professionals in many disciplines today still receive no preparation at all in the area of communication, and others receive instruction that fails to reflect current knowledge and practice regarding the forms and functions of communication, particularly in nonlinguistic modes. It would seem that academic disciplines, educational institutions, and public agencies responsible for personnel policies must all share a commitment to address these needs.

Current Best Practices for Facilitating Communication Among Persons With Severe Disabilities

Current clinical practices for facilitating and enhancing communication among persons with severe disabilities reflect major revisions in the products and processes of the past. The substance of these revisions has been derived from empirical bases. However, the overall direction and the essence of these revisions reflect the mingling of two distinct philosophical bases.

The first philosophical base focuses on reversing the deleterious effects that severe disabling conditions have had on the relative place of people in the mainstream of society (Wolfensberger, 1972). The intervention implications of this philosophy lie in its insistence that the opportunity to have communicative effects on one's environment is a basic human right that should be enforced and enabled by the provision of active treatment for persons with severe disabilities. This philosophy further insists that environments for persons with severe disabilities be least restrictive (Brown, et al., 1979; Gilhool & Stutman, 1978). This means that persons with severe disabilities should have access to the full human environment and the freedoms of action and choice that are available to persons without disabilities.

The second philosophical base relates to a view of human communication as social behavior that enables people to have effects on other people in their environment (Austin, 1962; Searle, 1969). This function permits cooperative societies of humans to be structured and coordinated for the good of the members of those societies (DeLaguna, 1963). The intervention implications of this philosophical base lead away from a consideration of communicative acts only in terms of their linguistic structure in a standard speech mode. Instead, current perspectives recognize that communicative acts can be produced in nonlinguistic forms and that, at least in the initial stages of intervention, the

relative appropriateness of these acts should be judged in terms of their ability to attain needed social ends (McLean & Snyder-McLean, 1984; OSEP/TADS symposium, 1985; Schuler, Peck, Willord, & Theimer, 1989; Yoder & Villarruel, 1988). In the later stages of intervention, however, efforts might be focused on attaining communicative acts that reflect high levels of social conventionality and acceptability.

The intervention practices that arise from these two philosophical bases are clearly focused on efforts that seek to establish communicative repertoires that permit persons with severe disabilities to act on their social environments to achieve their rights to live, play, and work in ways that meet their basic needs and preferences (Brown, Nieptuski, & Hamre-Nieptuski, 1976). The development of intervention practices to attain such functional communicative repertoires has been well served by empirical data showing that (a) human communication and its effects on others begin long before a formal, spoken language system has been acquired (Bates, Camaioni, & Volterra, 1975); (b) communicative behavior and its effects are initially acquired in contexts that feature purposeful and responsive interactions between competent communicators and communication learners (Bates, Benigni, Bretherton, Camaioni, & Volterra, 1979; Bruner, 1975); and (c) the behavioral forms of communication attain higher and higher levels of conventionality, symbolization, and effectiveness from the process of using and receiving reinforcement for communicative acts (Bates et al., 1979; Bloom & Lahey, 1978; Moerk, 1978). All of this suggests, then, that the specific nature of a desired functional communication system is best conceptualized in terms of its social uses (e.g., direct the actions of others, direct the attention of others). Thus, semantic functions (e.g., label of action or object) and syntactic forms (e.g., noun plus verb plus noun) (Keogh & Reichle, 1985; Peck & Schuler, 1987; Reichle, Piche-Cragoe, Sigafoos, & Doss, 1988; Wetherby & Prizant, 1989; Wetherby & Prutting, 1984) should be addressed in the context of functional communication.

Current best practices, then, are focused on the attainment of socially effective communicative repertoires. This goal, in turn, requires that targeted communicative behavior can be (a) acquired by persons with severe disabilities; (b) comprehended by significant people in the persons' environment; (c) matched up with communicative needs of community-based education, social, and work environments; and (d) taught in ways that are effective for both the initial acquisition and the generalization of communicative acts. This achievement of socially effective communication depends upon specific and comprehensive interdisciplinary practices. This means that the family and various professional disciplines must integrate information in assessment and goal setting and coordinate their delivery of intervention services (Calculator & Bedrosian, 1988). The specifics of these coordinated practices will be discussed briefly in the following sections of this paper.

Assessment Practices

Ideal assessment efforts begin with procedures that inventory and describe to what extent individuals are aware of their ability to act intentionally on people in their environments and to have effects on the behavior of those people. Assessment continues with procedures designed to identify the forms of an individual's extant communication repertoire, as well as the social functions (e.g., direct action, direct attention, protest, etc.) of that communicative behavior among individuals with severe disabilities (Higginbotham & Yoder, 1982; McLean, Snyder-McLean, Brady, & Etter, 1991; Schuler et al., 1989; Wetherby & Prutting, 1984).

The procedures and contexts needed to assess the communicative abilities and needs of persons with severe disabilities must be such that they ensure a comprehensive view of each individual's extant communicative abilities (Romski, Sevcik, Reumann, & Pate, 1988). This means that such descriptions must reflect repeated measures of the full range of an individual's performance across various areas of his or her educational, leisure, living, and working environments. Environmental assessments should be conducted in situations where individuals have a specific need or obligation to communicate. Thus, such descriptions should reflect all of an individual's communicative forms, including those expressed in nonspoken and nonsymbolic forms and those expressed in socially unacceptable ways, such as destructive and aggressive acts (Carr, 1977; Donnellan, Mirenda, Mesaros, & Fassbender, 1984). These descriptions should also report the respective functions that users apparently intend for these forms to accomplish. This assessment should also include measurement of hearing sensitivity.

Current best practices reflect an awareness that not only persons with severe disabilities, but also their environments, need to be assessed (Karan, et al., 1979; Peck, 1989; Yoder & Villarruel, 1988). Environmental assessments are designed to ascertain the degree to which different environments invite, accept, and respond to communicative acts by persons with severe disabilities. Such an assessment is necessary because many environments are highly directive and allow little input from persons with severe disabilities. The national trend to establish less restrictive and more normalized environments reflects the awareness that many environments tend to dehumanize persons with severe disabilities by not allowing them to express their desires, interests, and preferences through communicative acts.

At a minimum, then, an environmental assessment should (a) identify the partners for communication who are the most crucial in various environments; (b) measure the extent of the opportunities for communicative acts typically observed in various environmental contexts over time (e.g., education, leisure, living, and work settings, etc.); (c) compare the opportunities for communication among the different environmental contexts; (d) determine the proportion of communicative acts responded to appropriately in each environment; (e) determine the proportion of communicative acts responded to inappropriately in various environments; (f) identify the specific communicative forms and functions that might be useful or needed in various environments; and (g) identify the persons in those environments who appear to have relatively higher rates of permitting, accepting, and responding to communicative acts of an individual with severe disabilities. These highly responsive persons can be most useful in the initial stages of various intervention programs.

In summary, the forms and functions of communicative acts that are being used by individuals should be carefully observed before an intervention program is designed. The relative degree to which environments are sensitive and responsive to the needs of individuals to communicate should also be observed by assessing the frequency by which those environments invite, permit, accept, and respond appropriately to such acts. Given these data, professionals and significant others can then proceed to design program objectives both for individuals and the environ-

ments in which they learn, live, play, and work (Karan et al., 1979; OSEP/TADS symposium, 1985; Peck, 1989).

Goal-Setting Practices

Setting appropriate and attainable targets for intervention requires consideration of a complex system of variables. First, such practices are bidimensional in that they set goals both for individuals with disabilities and for the environmental contexts in which those individuals interact. Intervention is needed to alter environments that do not invite or respond to communicative acts. As will be discussed later, environments that encourage communication are needed as contexts for the initial learning of communicative forms and functions. Environmental programming also reflects the awareness that the generalization of newly acquired communicative forms and functions to everyday use necessitates that all of an individual's environments require, invite, and reward communicative acts.

Second, goal-setting practices must take into consideration the individual's entry communicative repertoire. For example, it is often more effective to target a new, higher level of communicative form as a means to express a social function that is already present in the individual's repertoire. Thus, an unconventional vocalization that the individual already uses could be augmented by teaching a corresponding iconic gesture (Halle, 1987; Hart, 1985; Siegel-Causey & Guess, 1989). It is the use of such known and meaningful communicative functions in social contexts that allows individuals to better comprehend the meaning and function of the new communicative form being taught.

Third, goal-setting practices may initially target interaction between persons with disabilities and various communication partners as a means of strengthening interaction and the communicative use of any already existing system, such as natural gestures. In later stages of intervention, these same partners and interactive contexts will be used as contexts for procedures designed to enable the acquisition and use of higher, symbolic communication forms. Even the symbolic forms sought in later stages of intervention might not be speech but, rather, might focus on augmentative and alternative communication (AAC), including various unaided (e.g., manual sign) and aided symbol sets and systems. Aided AAC systems and devices (e.g., communication boards) include those that can be accessed in ways ranging from simple touchplates to computer keyboards (Blackstone, 1986; Musselwhite & St. Louis, 1989). The selection of any one or combination of these options depends on the cognitive and physical status of the individual, as well as the practicality and functionality of different modes in his or her daily social environments (Beukelman, Yorkston, & Dowden, 1985; Musselwhite & St. Louis, 1989; Reichle, York, & Sigafoos, 1991).

Intervention Practices and Procedures

The consistent use of meaningful interactive contexts is the hallmark of current intervention practices (Calculator & Bedrosian, 1988; Halle, 1988; MacDonald, 1985; Musselwhite & St. Louis, 1989; Romski, Sevcik, & Pate, 1988; Siegel-Causey & Guess, 1989; Warren & Rogers-Warren, 1985; Yoder & Villarruel, 1988). Such contexts stress meaningful use of communicative signals and provide the occasions for reinforcement of these social acts. These practices reflect the renewed awareness that teaching communication does not mean teaching just communicative forms. Rather, communication intervention means teaching communicative forms and functions—with the functions discoverable only in the interactive, socialized contexts in which these functions occur and are responded to by other people.

Interventions should take place in real-world, interactional contexts. The use of such teaching contexts contrasts sharply with past practices in which communicative forms were trained in isolated environments. The current use of interactive contexts involving other people as responders to communicative acts features learning opportunities dispersed over a wide range of meaningful interactions and contexts, rather than trials presented in a training context that is isolated from an individual's daily environment. Research data suggest that the use of truly interactive contexts, in which communicative acts actually function to affect the behavior of other people in purposeful interactions, both increases the rate of communicative initiations and allows for effective learning of communicative forms and functions (Halle, 1987; Hart & Risley, 1980). Teaching communication in these more natural contexts appears more likely to foster the maintenance and generalization of newly learned communicative behavior to all similar contexts in the individual's natural environment.

Service Delivery

When considered together, all of the assessment and intervention practices discussed above have important implications for service delivery practices. Communication intervention must involve significant people and significant contexts across multiple environments. The delivery of intervention services of this scope requires the collaboration and competence of families and of professionals and paraprofessionals from many disciplines. The ideal interdisciplinary delivery model requires that participants share a common perspective on communicative behavior. This shared perspective should include an understanding that communicative behaviors are social in that they have effects on other people, and that such behavior can be nonspoken and nonsymbolic in its form (OSEP/TADS Symposium, 1985).

An interdisciplinary model also reflects an awareness that interactive contexts that are salient and productive for persons with severe disabilities involve family members and professionals and paraprofessionals from many disciplines. A master intervention program is best formulated and implemented by an interdisciplinary team and involves all of the contexts controlled and managed by individual members of that team. Depending on an individual's age and disability, the exact composition of the interdisciplinary team will vary. However, the team must include a speech-language pathologist and family member or guardian. Communication teaching takes place within the context of all life activities.

Clearly, each member of the interdisciplinary team, including family members, must be recognized as having specific and crucial contributions to make to the design of the communication intervention program. The specific knowledge and competencies that are required within an interdisciplinary team that is focused on the communicative needs of persons with severe disabilities are described below. As the wide range of knowledge and competencies needed by these teams is carefully examined, the need for interdisciplinary input should become abundantly clear.

Summary

In summary, the current best practices in the facilitation and enhancement of communication among persons with

severe disabilities reflect six major tenets: (a) communication is social behavior; (b) effective communicative acts can be produced in a variety of modes; (c) appropriate communicative functions are those that are useful in enabling individuals with disabilities to participate productively in interactions with other people; (d) effective intervention must also include efforts to modify the physical and social elements of environments in ways that ensure that these environments will invite, accept, and respond to the communicative acts of persons with severe disabilities; (e) effective intervention must fully utilize the naturally occurring interactive contexts (e.g., educational, living, leisure, and work) that are experienced by persons with severe disabilities; and (f) service delivery must involve family members or guardians and professional and paraprofessional personnel.

These six tenets have resulted in assessment, intervention, and service delivery models that offer maximum responsiveness to the need to establish communicative repertoires that will allow persons with severe disabilities to function effectively in least restrictive environments—in productive interactions with others.

Knowledge and Skills Needed by the Interdisciplinary Team in the Facilitation and Enhancement of the Communication of Persons With Severe Disabilities

The intervention goal for persons with severe disabilities is the establishment of functional communication, which includes the abilities to

1. Communicate for a variety of purposes relevant to the individuals' life experiences.
2. Use a variety of communication modes to accomplish these purposes effectively.
3. Initiate, maintain, and terminate social interactions as a critical dimension of communication.

The most effective means to establish functional communication is through the coordinated efforts of all team members engaged in the development and implementation of education and treatment programs for persons with severe disabilities. Traditionally, this would involve the speech-language pathologist, audiologist, special educator, occupational therapist, and physical therapist working in concert with individuals and family members. The skills of professionals from other disciplines also may be required.

Each team member will bring unique knowledge, experience, and skills to the process of assessment and management of intervention programs. There may be variations in the interdisciplinary resources and functions in different service delivery settings. The knowledge, skills, and competencies needed within the interdisciplinary team, if optimal attention is to be given to the communicative needs of persons with a severe disability, are listed below:

1. Knowledge of the interactive nature of the processes of cognitive, communicative, motor, and social development.
2. Knowledge about individuals with disabilities of different ages and functioning levels.
3. Knowledge about the nature of the impairment resulting in communicative disability and factors that promote prevention.
4. Knowledge and experience with various unaided and aided modes of communication (including body postures, gaze, gestures, and speech, as well as electronic and nonelectronic devices).
5. Knowledge of personal amplification or other assistive devices that may be used with persons with severe disabilities who also exhibit a hearing loss.
6. Knowledge of medications and their effects on the behaviors of individuals, and especially on communication.
7. Knowledge of a variety of complications that are evidenced by individuals with severe disabilities in addition to the communication disability (e.g., feeding problems, seizures).
8. Knowledge of the relationship between socially unacceptable behaviors and communication.
9. Expertise in ongoing assessment and evaluation (through formal and informal standardized and nonstandardized procedures) of type, nature, and severity of the communicative impairment evidenced by individuals with severe disabilities. The ability to plan and implement a comprehensive assessment that leads directly to intervention goals and objectives.
10. Knowledge and ability to plan assessment and intervention that integrates the domains of cognitive, motor, sensory, and social functioning.
11. Ability to describe and document functional communication abilities and needs within the specific contexts of educational settings, living environments, recreational and vocational environments, and the community at large.
12. Knowledge and ability required to plan, implement, monitor, and modify as needed an interdisciplinary intervention program that will allow individuals with severe disabilities to develop functional communication skills, in spoken or other modes, that are appropriate to the individual's educational, living, recreational, and vocational environments.
13. Expertise in the determination of which speech and specific augmentative and alternative communication (AAC) devices and strategies to use to maximize functional communication.
14. Expertise with mobility aids.
15. Expertise in positioning to maximize functional communication in all environments.
16. Expertise with management of activities of daily living and incorporation of communication into each of these.
17. Skill and experience in determination of best access to electronic and nonelectronic devices.
18. Skill and experience in assessment for and implementation of gestural communication.
19. Expertise in the integration of communication, including AAC devices, in community, educational, living, recreational, and vocational environments.
20. Knowledge to develop an appropriate vocational curriculum.
21. Knowledge to select and implement a variety of service delivery models.

22. Ability to educate colleagues, administrators, parents, primary caregivers, and the community about individuals with severe disabilities and their communication needs and strengths, including the ability to conduct staff development, establish home programs, and use paraprofessionals.
23. Knowledge and ability to incorporate current research findings into communication programming.
24. Ability to understand family or caregiver needs and strengths and to interact in a culturally sensitive manner.

The level of interpersonal, interdisciplinary, and interagency cooperation required to create such facilitating and enabling communication environments and to meet personnel needs may seem, at first, to present overwhelming logistical obstacles. However, without such a commitment, there can be no true quality of life for persons with severe disabilities. This is a challenge worthy of our best efforts.

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SECTION SEVEN

Augmentative and Alternative Communication

DEFINITION

AAC is an area of assistive technology that attempts to augment (add to current communication) communication or provide an alternative way to communicate. It is any device, system, or method that improves the ability of a child with a communication impairment to communicate effectively (Visvader, 2013). AAC includes, but is not limited to: sign language, pictures, objects, no technology, low technology, and high technology devices.

GENERAL CONSIDERATIONS

The following guidelines have been designed to assist program coordinators, speech language pathologists (SLP), teachers, parents, and other Individualized Education Plan team members in determining if Augmentative and Alternative Communication (AAC) is appropriate for a student.

It is important for AAC users to have a means to express wants and needs, to exchange information, and develop and maintain social relationships. The goal of AAC is to use the most effective communication possible that may require a multimodal approach in order to be able to communicate for different purposes in a variety of contexts. The individual's full communication capabilities could include "any residual speech or vocalizations, gestures, signs, and aided communication" (ASHA, 1991).

Individuals who use AAC have severe expressive communication disorders that are characterized by impairments in speech and language. The list of populations below includes those who may have a temporary or permanent need for AAC to augment or replace other more traditional means of communication. It is not intended to be an exhaustive list of individuals who may benefit from AAC intervention.

- Autism spectrum disorder (ASD
- Cerebral palsy
- Developmental disabilities
- Intellectual disability
- Developmental apraxia of speech
- Genetic disorders
- Cerebrovascular accidents
- Traumatic or acquired brain injuries
- Neurodegenerative diseases
- Temporary conditions (e.g., intubation)

AAC needs for individuals with acquired disabilities will vary and may change over time, depending on the intactness of their language and cognition at the time of injury as well as on disease onset and progression. (Adapted from ASHA.org, 2017)

AAC Assessments, implementation, and follow-up services should include a transdisciplinary approach. This encourages extensive collaboration between team members, role release of skills to and from one other, and maximizing each team member's skills and contributions. The families and individuals using an AAC device should play key roles as members of the team. Depending on the needs of the AAC user a psychologist, occupational therapist, physical therapist, as well as other professionals could also be included in the team. (Adapted from ASHA.org/policy, 2002. It is important to include the student and family. Lack of family participation and input into the AAC process can lead to partial or complete abandonment of AAC (Angelo, Jones, & Kokoska, 1995; Parette, Brotherson, & Huer, 2000; Parette, VanBiervliet, & Hourcade, 2000).

Not all SLPs are expected to engage in all areas of AAC practice. However, all SLPs are expected to recognize situations in which mentoring, consultation, and/or referral to another professional are necessary to provide quality services to individuals who may benefit from AAC. Consult with an AAC specialist for further assessment, implementation, and support when needed. (Adapted from ASHAorg, 2002).

Additional websites:

https://www.communicationmatrix.org/

https://aac-ucf.unm.edu/common/brochures/hannah-hughes.pdf

http://www.swaaac.com/files/assessandimp/aacbasicsandimplementationbook.pdf

https://exchange.abilitytools.org/

http://www.asha.org/public/speech/disorders/AAC/

RESOURCE MATERIAL

The Value of Routines

We all follow routines throughout our day – sequences of events associated with dressing, eating, and traveling to and from work and school. Routines allow us to accomplish these daily tasks more efficiently and effectively because we know what is expected and how we should respond. Routines may be even more important to your child with communication needs. Many children with disabilities gain comfort and security in routines. They learn to expect certain sequences of events before, during, and after activities like meals, bedtime, and preparing for and returning from school.

1. Routines can be predictable and comforting.

2. Established routines tend to be efficient. You and those around you know what to expect.

3. The ability to anticipate what will happen next demonstrates that your child understands and has learned a routine

4. The vocabulary and language concepts that center on a routine have a consistency that allows your child to make associations between the words you use and the actions that are taking place. This helps to increase your child's understanding of language.

5. The language and communication within a routine is predictable. This predictability allows your child to use his/her expressive language (looking, pointing, gestures, sounds, word approximations, pictures, etc.) more effectively in a comfortable setting. It also allows the other communication partners to more correctly interpret your child's communication attempts.

6. Most importantly, routines and their predictable sequences and responses provide wonderful opportunities to encourage your child's communication skills to grow!

Let us discuss how you can use routines to help your child increase his/her communication skills.

All children (regardless of their abilities) communicate. Children are most likely to learn the communicative behaviors that express their wants and needs and control their environment. However, some children must be systematically taught how to interact with others. Routines are a great way to introduce communication. They are "old learning." There is no guesswork. There is no uncertainty. Nobody questions what will happen next. Everyone knows the vocabulary and the sequence of events. The purpose of using routines for teaching communication is to insert an expectation for communication into the routine. It is simple and direct. It does not take much time and does not significantly change the routine.

There are many small routines that occur in your family's daily activities. You might pick

one or several routines where you can insert a communication requirement. You need to be the judge as to what or how much you and your child can handle.

Facilitating Effective Communicative Interactions

1. **Strategies to be an effective communication partner.**
    a. Communication demand: setting up the environment in which a demand is placed on the child to initiate communicative interactions for a desired object/activity with minimal prompts or cues.

    b. Pause time: allowing the child plenty of opportunity to process information by increasing silence in between verbal directions, prompts, etc.

    c. Fading: When prompts or cues are needed, start to decrease them as soon as possible, in order to allow the child to increase his/her own successes independently.

    d. Playing "stupid": pretending to not know what the child wants or is trying to do.

    e. Sabotage: leaving out an important piece of an activity, for example, no cups for snack time or unplugging the computer.

2. **Setting Up the Environment:**
    a. Make sure there are opportunities for plenty of repetition.

    b. Use many visuals to help the child understand what is expected and to allow him/her to be able to respond and request.

    c. Ensure the child has easy access to activities and materials while still expecting the child to initiate communication.

References

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Prompts and Cues

A prompting strategy should be used to consistently communicate to the child that you expect them to interact with you, and to provide the supports he/she needs to do so. When you use a prompting strategy, you are directing the interaction toward the end goal of greater communication. While you are providing helps and supports, you refuse to play guessing games, rely on gestures or resort to yes/no questions to gain information.

Begin with the least amount of help, and only offer more after a pause and no results.

Pausing is critical to give your child time for processing and motor planning to make a response. Time yourself! 10-15 seconds can be longer than you might think.

1. **Natural cue.** A natural cue is a real part of the interaction. If I say "hello" to you this is a natural cue that you should respond in some way, usually by saying "hello" back to me.

2. **Expectant look.** This could also be considered a real part of the interaction. It is just a bit more exaggerated. This cue consists of looking expectantly at the child and pausing to allow him/her time to process and respond

3. **Gesture.** If the child does not respond to the natural cue or expectant look the communication partner should gesture toward the objects or pictures that signify the child's possible choices or responses.

4. **Model.** Make your choice of the objects or pictures to show the child what is expected. As you make your choice model the verbal response "I want the truck book."

5. **Verbal direction.** Tell the child what you expect them to do. "What do you want? Show me which toy you want to play with."

6. **Physical prompt.** Use a hand-over-hand prompt to make a choice for the child. Watch the child's response and help him/her to self-correct as needed.

References

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Pictures! Pictures! Pictures!

- **Pictures** are visual tools that provide a simple way to make communication more effective and less stressful.

- **Pictures** can be used to organize the environment, teach skills and improve two-way communication.

- **Pictures** can be used to develop calendars and schedules, give students information, communicate what is happening, explain what is changing and establish rules and behavior guidelines.

Types of Pictures

Care should be taken in choosing pictures for communication and visual schedules. The size and types of pictures will depend on your child's ability to see the pictures, reach and/or pick up the pictures, and whether or not your child understands that pictures have meaning.

In order to use pictures effectively a child must understand that a picture has meaning. If your child is not symbolic and does not understand that pictures have meaning you should begin with real objects.

Photographs

Photographs are excellent tools but sometimes they can be confusing. Be sure to capture the critical element in photographs. In other words, make sure that there are no other distracting things in the background. It often helps to place the object that you are photographing on a solid color sheet or towel so there are no other things in the photo. If you cannot do this, you may need to use the photo-editing program that came with your digital camera to crop out the background. If you are using non-digital photos, you may need to cut the important part of the photograph out to make it stand out. Photographs may be the best form of representation for young children, as photographs may more closely resemble the actual object.

Line drawings

Line drawings are clear, concise, drawn visual representations of words and concepts. Line drawings may be used in a black and white or colored form. The most widely used form has been Picture Communication Symbols (PCS) from Mayer-Johnson, LLC however there are many companies that now sell their own sets of pictures for communication and learning. Line drawings may be a little more abstract for some children and care should be taken to be sure that the child understands that the drawing, which may not closely resemble the actual object, has meaning.

Choices! Choices! Choices!

Giving your child the opportunity to make choices throughout his/her day is a great way to develop functional communication skills. One type of choice is to continue an activity. Begin singing your child's favorite song or engage in his/her favorite activity and stop in the middle. What does your child do? How does your child indicate that he/she wants you to continue? Does your child use facial expressions, gestures, vocalize, or reach out? Your child is communicating! Talk to your child about it. "You told me yes." or "You told me you want more."

Creating opportunities for choices and communication will increase the length of time that an activity usually takes but the benefits in terms of increasing your child's communication and decreasing his/her frustration will be worth it. In the following section, you will find ideas and activities to provide choices for your child.

Mealtime and/or snack time

Give your child choices:

Allow your child to choose which foods he/she wants to eat.

Can your child choose whom to sit next to during the meal?

Which food does he/she want to eat next?

Let your child choose between a bite to eat and a drink.

Getting dressed

Give your child choices:

Which types of clothes (shorts, pants, dress) does your child want to wear?

Which colors do they want to wear – no, they do not have to match!

Which article of clothing does he/she want to put on next?

Bath time

Give your child choices:

What toys to put into the tub?

Which body part to wash, dry, tickle, massage, put lotion on?

Fun time

Give your child choices:

Which song to sing?

Which book to read?

Which TV show or video to watch?

Which picture to color?

Which color to use?

Where to go?

- The zoo?
- The park
- The beach
- To visit someone?
- Who to visit?

Potential choice opportunities throughout the school day for various grade levels

Preschool	**Elementary school**	**Middle and high school**
Snacks (food and drink)	What to eat or drink for lunch	What to eat or drink for lunch
Music to listen to	Music to listen to	Music to listen to
Musical instrument during music or circle	Musical instrument in music class	Musical instrument in music class
Centers when an option	Classmate to push wheelchair or serve as a peer helper	Classmate to push wheelchair or serve as a peer helper
Playground equipment to use	Position in which to do an activity	Position in which to do an activity
Classmates to sit next to or work with at centers	Where to sit (if an option)	Where to sit (if an option)
Position in which to do an activity	Using a computer or writing instrument (pen, pencil, marker) to do assignments	Using a computer or writing instrument (pen, pencil, marker) to do assignments
Colors or materials to use for art	Graphics for a report	Graphics for a report
Toys or materials for free play	Software program to use	Software program to use
Books to read	Books to read or listen to (either on tape or read by a classmate)	Books to read or listen to (either on tape or read by a classmate)
Songs to sing at circle time		Classes to take

		Projects to work on Peers to collaborate with on a project

Adapted from *Teaching communication skills to students with severe disabilities*

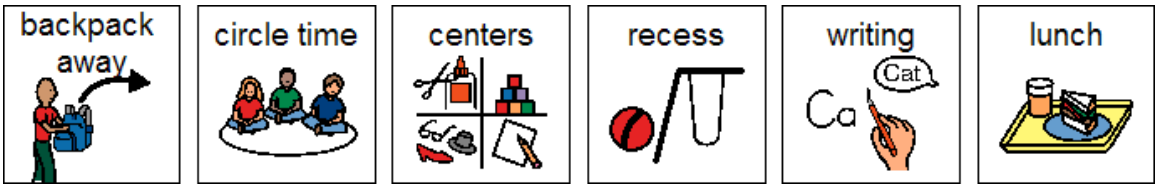
by June E.Downing

Visual Support Systems

There are several types of visual support systems designed to help children understand their world: visual schedules, visual directions, aided language stimulation or input, and choice boards.

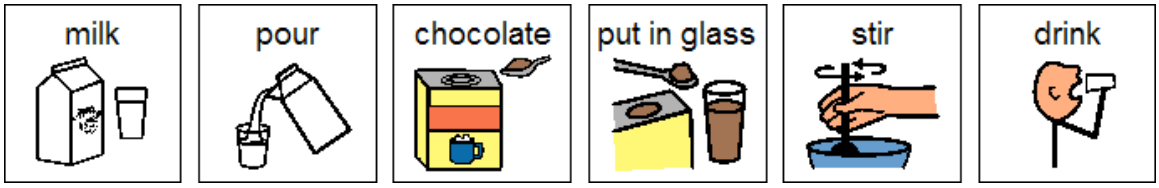
Visual schedules

Visual schedules seem to be the most familiar and widely used visual support. The purpose of a visual schedule is to provide children with information about what is happening next, with whom, and where. Visual schedules can help a child cope with changes in routines.



Visual directions

The primary difference between visual schedules and visual directions (also called mini-schedules) is that visual schedules are most often used to signal transitions from one activity to another. Visual directions on the other hand are used to provide the instructions for what to do while the child is engaged in the activity.



Visual Schedules

Visual schedules are a fair and humane way to help visually oriented learners **understand** and **remember** what is expected of them.

Visual schedules give information about:

- What is happening today (regular events)
- What is happening today (different events)
- What is not happening today
- What is the sequence of events
- When is it time to stop one activity and move to another

Benefits of visual schedules:

- Understanding what is expected of the child
  - Lowers anxiety
  - Facilitates compliance
  - Fosters independence
  - Builds self-confidence

How to Create a Daily Schedule

- Establish a purpose for the schedule. Will it be used to:
  - Help with transitions
  - Direct the action in an event

- Determine the type of representation. Will you use:
  - Real objects
  - Photographs
  - Line drawings (color or black and white)
  - Printed words

- Label the pictures with the exact words you will use when referring to the activity.
  - Everyone will use the same terminology.
  - Some students will learn to read the words.

- Select a format for the arrangement of the pictures:
  - Vertical
  - Horizontal
  - Folder
  - Clipboard

- Consider locating the schedule in the area where it will be used. For example, place a "washing hands" schedule over the sink.

- Decide how it will be used. Will the pictures:
  - Go into a "done" pocket when the activity is finished
  - Be attached to a matching picture at the location of the activity
  - Be checked off a list as the activity is completed

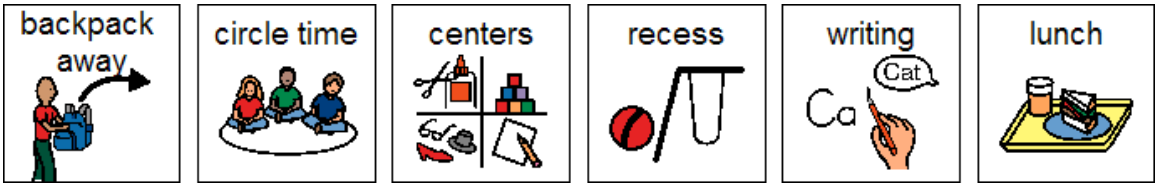
- Divide the Day into Segments:
  - Identify the segments that are noticeably different to the child:
    - Changes from one room to another
    - Changes in location within the classroom/home
    - Changes in activities that use different materials
    - Changes in staff

  - Give each segment a name:
    - Make sure the name of the segment conveys some idea of the location or activity from the child's perspective.

- Teach the Student How to Use the Schedule
  - Have all materials ready and in the proper location.

- Provide full support and assistance in the beginning.
- Expect to provide full guidance throughout the entire schedule process.
- Fade prompts slowly.
- Use the schedule consistently and frequently.
- Use a verbal script to accompany the motor routines.
  - "Math time is done. Time for _____."
- Encourage the student to participate in the verbal routine.
  - By touching/pointing to the symbol
  - By removing the symbol
  - By checking off or crossing off the activity
  - By using a gesture
  - By vocalizing

- How to Use the Schedule
  - Follow it.
  - If you are not going to follow it – change it.
  - Make it an essential part of the daily routine.
  - **USE IT CONSISTENTLY!**
  - Refer back to it when talking about the activities.
  - Allow enough time in your schedule to use it.

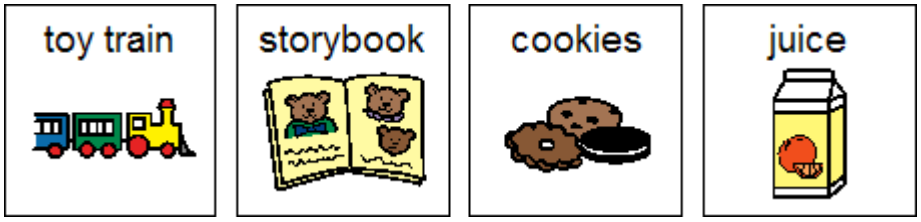


Aided Language Stimulation or Input

Aided language stimulation or input is interactive, receptive and expressive communication training that uses picture communication displays to model language skills. A picture board is created that contains the key vocabulary used in the activity. The adult points to the pictures that represent the important language concepts while speaking to the child.

Choice Boards

- Choice boards are:
    - Visual (or tactile) representations of choices:
        - Activities
        - Computer
        - Play areas
    - Within an activity
        - Songs at circle time
        - Foods at snack time
    - What I'm working for
        - Treat
        - Activity



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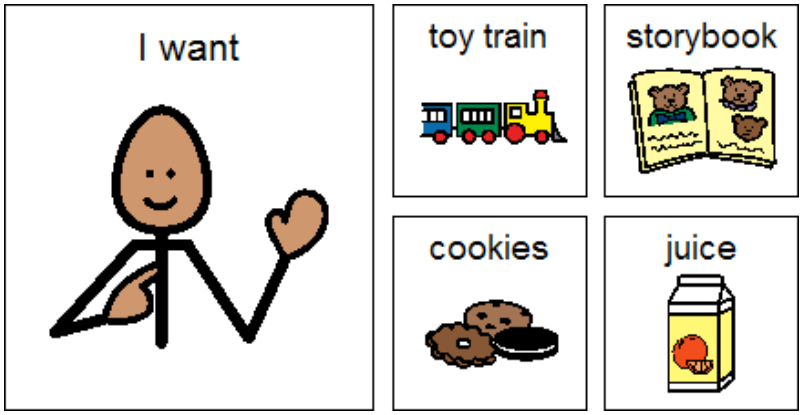

Eye Gaze

Using the eyes for communicating is a useful strategy for students with significant physical challenges. Many of these students are unable to signal a choice in any other way. Eye gaze can be used to generate communication in any situation, but it is most often used for making choices. The benefits of using the eyes for selection are that it is easily learned with little or no cost for equipment, and it can be used spontaneously.

Eye gaze may be used informally, that is the communication partner must be aware of the child's gaze at objects of interest. Eye gaze may also be used more formally by offering a set of choices to the child. Two or more objects are presented to the child and the child is expected to look at all of the choices, gaze at the one he/she wants, and then look back at the listener.

Eye gaze may also be used by assigning choices to the communication partner's right and left hand. For example, the communication partner may say, "Do you want milk (indicating the right hand) or juice (indicating the left hand)? The child is prompted to look at each one of the choices. After looking at his/her choice, the child then looks at the communication partner. This step is critical, as it is much easier to read the response. Therefore, if the child looked at the communication partner's right hand and then back at the communication partner he/she would be choosing to have milk. The most commonly used choice points are the left shoulder, right shoulder, looking up (forehead), and looking down (chest or chin). It is important that everyone use the same system to minimize confusion.

The communication partner may use a touch cue on two or more body parts of the child's body to provide choices. The child then eye points (or head points) to the area of his/her choice. This technique is particularly useful as it does not require any equipment.

One disadvantage to using this method is that it can only be used for predetermined choices. The child cannot generate communication beyond the choices given. One way to help expand this method is to make one of the choices "None of those." This means that the child has the option of rejecting the choices given and can then initiate a 20 questions type of approach.

Training Eye Gaze

Phase 1

This phase is designed primarily to train the child to use eye contact to confirm a choice. Children using an eye gaze system will look between items held in front of them and it can be difficult to determine their final choice. Confirmation signals the listener that the child's choice has been made. Before providing the child with a toy, object or food item, place it in front of him. Name the item, ask the child to look at the item, and then confirm the choice by making eye contact with you. Reinforce the child's response and provide the item.

Example:
1. Point to the cracker and say, "Look at the cracker." The child looks at the cracker.
2. Say: "Look at me." The child looks at the speaker.
3. "You told me you want a cracker." Provide the cracker.

Phase 2

This phase trains the child to make choices using eye gaze. Present one item in front of the child, name the item, and ask the student to look at it. Present a second item, name it and ask the child to look at it. Ask the child to indicate his/her choice by looking at one of the items and then to confirm the choice by making eye contact. Reinforce the child's choice and provide the item.

Example:
1. Point to the cracker and say, "Look at the cracker."
2. Point to the apple and say, "Look at the apple."
3. "Look at the one you want."
4. "Look at me."
5. "You told me you want a cracker." Provide the cracker.

Phase 3

This phase refines the child's choice making. Present two items in front of the child. Ask the child to indicate a choice by looking at one of the items. Do not name the items during this phase. Wait for confirmation and remind the child if necessary. Reinforce the child's choice and provide the item.

Example:
1. "Which one do you want?"
2. "Look at me."
3. "You told me you want a cracker." Provide the cracker.

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Text

AAC BOOT CAMP

Getting AAC Users COMMUNICATING

regardless of AAC system used (no tech, low tech, high tech) or skill level...

DON'T do this.....	DO this.....
DON'T expect a user to know how to communicate w/o direct models & instruction	✓ MODEL MODEL MODEL *model expected communication behaviors BEFORE expecting to see those behaviors from the user*
DON'T do ALL the talking	✓ PRESUME COMPETENCE
DON'T overprompt	✓ FOLLOW prompt hierarchy
DON'T teach ONLY requesting	✓ TEACH language functions *including directing, commenting, requesting assistance, etc...*
DON'T re-prompt too quickly	✓ WAIT 10-20 sec. (w/an expectant look) before re-prompting!! *Count in your head!!* 1 2 3
DON'T provide ONLY nouns	✓ PROVIDE CORE WORDS *including verbs & describing words (in addition to nouns)*
DON'T focus on vocabulary that won't be functional/used tomorrow	✓ COLOR CODE parts of speech
DON'T remove the device	✓ KEEP icon placement constant *keep repeated icons in the same location on each page/screen*
DON'T move symbols	✓ ALLOW user time to explore and learn the system
DON'T stop all "babbling" *(exploring, button pressing)*	✓ MAKE AAC available at all times
DON'T keep the AAC system in their desk, cubbie, or backpack	✓ PROVIDE Aided Language Input
DON'T expect sentences right away	✓ ASK open-ended questions

Created by Lauren Enders with content by Lauren Enders, Pat Mervine, Melissa Skocypec, & Cathie VanAlstine - February 2013

SETT FRAMEWORK

Student (LAST, FIRST, MIDDLE	DOB	OSIS
School	Grade	Date
Name of person completing form	Phone number	
IEP team members contributing information		

Student

Describe current abilities and what are the barriers that are preventing the student's learning and access to the curriculum.

Environment

Identify the environment where the student spends time and the tasks asked of the student. What

equipment is currently available? How is instruction delivered? Who are the primary people working with the student? What is the physical arrangement?

Tasks

Describe the specific tasks the student is currently not able to perform at the level consistent with his/her abilities. How might these tasks be modified to accommodate the student's special needs? How might assistive technology support the student?

Tools

Based on environment and tasks, identify the tools (strategies, AT) that will support the student's ability to access the curriculum. Do you need to trial the suggested recommendation?

WATI Student Information Guide

SECTION 2
Communication

1. Student's Present Means of Communication

(Check all that are used. **Circle the primary method** the student uses.)

❒ Changes in breathing patterns ❒ Body position changes ❒ Eye-gaze/eye movement
❒ Facial expressions ❒ Gestures ❒ Pointing
❒ Sign language approximations ❒ Sign language (Type_____ # signs_____
combinations _____ # signs in a combination _____
❒ Vocalizations, list examples_____
❒ Vowels, vowel combinations, list examples_____
❒ Single words, list examples & approx. #_____
❒ 2-word utterances ❒ 3-word utterances
❒ Semi intelligible speech, estimate % intelligible:_____
❒ Communication board ❒ Tangibles ❒ Photos ❒Symbols ❒ Visual Scenes
❒ Combination symbols/words ❒ Words
❒ 2 symbol combinations- list examples _____
❒ 3 or more symbol combinations – list examples _____
❒ Communication book/binder – number of pages in book/binder _____
Does student navigate to desired page/message independently? ❒ yes ❒ no
❒ Schedule board(s) – list examples _____
❒ Speech Generating device(s) - please list_____
❒ Multiple overlays or levels – list examples _____
❒ Partner Assisted Scanning – please describe strategies and communication system _____
_____
❒ Intelligible speech ❒ Writing ❒ Other_____
Comments about student's present means of communicating _____
_____

Purposes of Communication

Does the student communicate:

❒ Wants/Needs – list examples _____
❒ Social interactions – list examples _____
❒ Social etiquette - list examples _____
❒ Denials/rejections – list examples _____
❒ Shared information, including joint attention – list examples _____
_____

2. Those Who Understand Student's Communication Attempts (Check best descriptor.)

	Most of the time	Part of the time	Rarely	Not Applicable
Strangers	❒	❒	❒	❒
Teachers/therapists	❒	❒	❒	❒
Peers	❒	❒	❒	❒
Siblings	❒	❒	❒	❒
Parent/Guardian	❒	❒	❒	❒

3. Current Level of Receptive Language

Age approximation _____

If formal tests used, name and scores_____

If formal testing is not used, please give an approximate age or developmental level of functioning. Explain your rationale for this estimate. _____

_____

4. Current Level of Expressive Language

Age approximation: _____

If formal tests used, name and scores_____

If formal testing is not used, please give an approximate age or developmental level of functioning. Explain your rationale for this estimate._____

5. Communication Interaction Skills

Desires to communicate ❒ Yes ❒ No

To indicate *yes* and *no* the student

❒ Shakes head ❒ Signs ❒ Vocalizes ❒ Gestures ❒ Eye gazes

❒ Points to board ❒ Uses word approximations ❒ Does not respond consistently

Can a person unfamiliar with the student understand the response? ❒ Yes ❒ No

(Continued on next page)

SECTION EIGHT

Developing Goals and Objectives

DEVELOPING GOALS AND OBJECTIVES

Speech-language goals should NOT be taken directly form the Common Core. The speech-language goals should be written for the student to meet the Common Core Standard by sequencing progress towards the overall standard.

Blosser et al. (2012) suggest that SLPs use either a *standards-referenced approach* or *a standards-based approach* to develop relevant goals and activities. In the standards-referenced approach, the SLP and team develop the goals and then identify the standards that best match the goals. In the standards-based model, the standard serves as the starting point for generating the goals and objectives.

For additional information:

https://www.asha.org/SLP/schools/Frequently-Asked-Questions.htm

Some tests that SLP's are comfortable using may evaluate skills that have not yet been introduced within the regular education curriculum. For example, the WORD TEST could identify a kindergarten, first- or second-grade student as having a perceived vocabulary deficiency in the area of antonyms, whereas in the framework, lessons involving the concept development of opposites are not begun until Grade 3. Make certain after assessing and before writing your reports that you cross-check perceived areas of disability with the appropriate grade-level expectations.

Remember that with our IEP forms, the Annual Goal should reflect the achievement anticipated from your student in a twelve-month period; this may be perceived as your terminal objective. The supporting objectives are only required for students taking the California Alternative Assessment (CAA). The objectives are to be used as benchmarks of progress; in general, the first objective could designate what progress you anticipate after four months of therapy, the second objective after eight months of therapy. Consider your goals/objectives to simply be a simplified task analysis of what you are striving to teach. Some examples follow:

1. Annual Goal: By June 2021, <This second grade student> can understand and follow one- and two-step oral directions, independently, with 80% accuracy, in 3 out of 4 sessions, as measured by data collection. *Note: State framework notes that a second grade student should give and follow three- and four-step oral directions. Using this to develop your goal/objectives…*

   Objective 1: By September 2020, Joey will follow one- and two-step oral directions, given less than 5 prompts, with 80% accuracy, in 3 out of 4 sessions, as measured by data collection.

Objective 2: By November 2020, Joey will follow one- and two-step oral directions, given less than 3 prompts, with 80% accuracy, in 3 out of 4 sessions, as measured by data collection.

Objective 3: By March 2021, Joey will follow one- and two-step oral directions, given less than 2 prompts, with 80% accuracy, in 3 out of 4 sessions, as measured by data collection.

2. Annual Goal : By June 2021, <This fourth-grade student> will articulate /p,b,k,g/ in cvc and cvcv words, at the sentence level, independently, with 80% accuracy, in 4 out of 5 sessions, as measured by data collection.

   Objective 1: By September 2020, Jennifer will articulate /p,b,k,g/ in cvc and cvcv words, at the word level, independently, with 80% accuracy, in 4 out of 5 sessions, as measured by data collection.

   Objective 2: By November 2020, Jennifer will articulate /p,b,k,g/ in cvc and cvcv words, at the sentence level, with less than 2 prompts, with 80% accuracy, in 4 out of 5 sessions, as measured by data collection.

   Objective 3: By March 2021, Jennifer will articulate /p,b,k,g/ in cvc and cvcv words, at the sentence level, independently, with 60% accuracy, in 4 out of 5 sessions, as measured by data collection.

3. Annual Goal: By June 2021,<This student> will maintain conversations with peers and adults by asking questions, answering questions, and commenting on topic for 5 conversation exchanges, independently, in 4 out of 5 opportunities, as measured by data collection.

   Objective 1: By September 2020, will maintain conversations in a structured speech activity by asking questions, answering questions, and commenting on topic for 3 conversation exchanges, with less than 3 prompts, in 4 out of 5 opportunities, as measured by data collection.

   Objective 2: By November 2020, Allen will maintain conversations in a structured speech activity by asking questions, answering questions, and commenting on topic for 3 conversation exchanges, independently, in 4 out of 5 opportunities, as measured by data collection.

Objective 3: By April 2021, Allen will maintain conversations with peers and adults by asking questions, answering questions, and commenting on topic for 5 conversation exchanges, with less than 2 prompts, in 4 out of 5 opportunities, as measured by data collection.

4. Annual Goal: By June 2021,<This second grade student> will both identify (from a visual) and use the appropriate volume to use in a variety of settings (classroom, speech room, and outside) to increase her ability to be heard by peers and adults, with 80% accuracy, in 3 out of 4 opportunities, as measured by data collection.

   Objective 1: By September 2020, Jasmine will both identify (from a visual) and use the appropriate volume to use in the speech room, to increase her ability to be heard by peers and adults, with 80% accuracy, with prompting, in 3 out of 4 opportunities, as measured by data collection.

   Objective 2: By November 2020, Jasmine will both identify (from a visual) and use the appropriate volume for different settings, in the speech room to increase her ability to be heard by peers and adults, with 80% accuracy, independently, in 3 out of 4 opportunities, as measured by data collection.

   Objective 3: April 2021, Jasmine will both identify (from a visual) and use the appropriate volume to use in a variety of settings (classroom, speech room, and outside) to increase her ability to be heard by peers and adults, with 80% accuracy, with prompting, in 3 out of 4 opportunities, as measured by data collection.

Reminder: Objectives are only required for students taking the California Alternative Assessment (CAA)

RESOURCES

http://www.aea11.k12.ia.us/att/att_strategies.htm. Heartland Area Education Agency, Iowa Department of Education.

https://www.stutteringtherapyresources.com/store/category/oases Overall Assessment of the Speaker's Experience of Stuttering.

https://static1.squarespace.com/static/57c86c3cff7c506bc7a8fdbf/t/59f8af6c8165f512162a03b9/1509470066223/AAC+Basics+and+Implementation_+How+to+Teach+Students+who+%E2%80%9CTalk+with+Technology%E2%80%9D.pdf AAC Basics and Implementation.

https://doi.org/10.1044/2018_PERS-SIG1-2018-0014 Using Developmental Norms for Speech Sounds as a Means of Determining Treatment Eligibility in Schools Holly Storkel; Perspectives Sig 1 Feb 2019.