Speech-Language Pathology Services in Schools

Guidelines Focused on Evidence-based Practice

Provo City School District
Provo, Utah
2012

Acknowledgements

This project was completed as a result of the invaluable support and forward thinking provided by the
Provo City School District Special Programs Administration.

It was developed through a collaborative process by the
Speech-Language Pathologists of Provo City School District.

Recognition is given to the following organizations for key information found in their Speech-Language Guidelines:

American Speech-Language-Hearing Association

Colorado Department of Education

Iowa State Department of Education

Kansas Department of Education

Michigan Speech-Language Hearing Association

Virginia Department of Education

A special thanks to
Ted Kelly, Dawnne Casey and Morgan Anderson
for their support.

Table of Contents

The purposes of these documents are:

- To define the roles and responsibilities of the school-based Speech-Language Pathologist
- To provide a unified standard for child find, eligibility and dismissal criteria
- To enhance evidence-based practices
- To provide resources for parent and teacher involvement
- To enhance the effectiveness of the Speech-Language Pathologist as a Multi-Disciplinary Team Member
- To delineate options for individualized services in the Least Restrictive Environment

Speech-Language Pathologist
Job Description

Speech-Language Pathologists are professionally trained to prevent, screen, identify, assess, diagnose, refer, provide intervention for, and counsel persons with, or who are at risk for, articulation, fluency, voice, language, communication, and related disabilities. In addition to engaging in activities to reduce or prevent communication disabilities, Speech-Language Pathologists also counsel and educate families or professionals about these disorders and their management. The roles and responsibilities of a Speech-Language Pathologist employed by Provo School District are as follows:

Roles/Responsibilities of School-Based Speech-Language Pathologists

Role	***Responsibilities***
Compliance	Complies with federal, state, and Provo School District (PSD) policies and procedures
Identification	Conducts hearing screenings (also may be conducted by nurses or audiologists) Identifies if students failing screening should be referred for evaluation Informs parents of screening results for students who fail
Evaluation: determining needed evaluation	Serves as member of team for any students with suspected speech-language deficits Reviews existing evaluation data Identifies additional, if any, evaluation data needed to determine eligibility Provides parent rights and responsibilities Secures parental consent for evaluation
Evaluation: assessment	Conducts PSD approved standardized and dynamic assessments of speech-language skills using a variety of formal and informal measurements
Evaluation: interpretation of assessment	Identifies child's communication strengths and weaknesses Prepares evaluation summary Explains results to parents
Eligibility decision	Reviews evaluation summary at team meeting and determines if the child is a "child with a disability" who needs or continues to need "special education and related services"
Individualized Education Program development	Drafts parts of present level of performance, IEP goals and objectives/benchmarks related to speech-language impairment integrating individualized speech-language skills and needs with other strengths and needs as related to USOE core curriculum and/or appropriate educational activities Completes all sections of the IEP
Transition	Both sending and receiving SLP's participate on planning teams to assist students in successful transition at the following levels: Birth to 3, Preschool, Elementary, Secondary, Secondary to Postsecondary Education or Employment, More-Restrictive to Less-Restrictive Settings

Behavior intervention	Conducts Functional Behavioral Assessment and develops and implements Behavioral Intervention Plans as related to speech and language needs.
Caseload management	Schedules students for evaluations and interventions including direct and indirect services
Intervention	Provides direct, indirect, and collaborative services to children based on LRE Maintains and utilizes ongoing data collection to ascertain appropriate individualized instructional strategies Implements current research based and peer-reviewed practices with fidelity
Classroom and behavior management	Uses effective management strategies to increase student compliance and time on task Appropriately motivates the students Establishes a positive learning climate Appropriately uses materials, time, space, and activities to minimize behavior problems States expectations for behavior, including consequences Follows Provo Behavior Procedure
Consultation and counseling	Advocates for students Involves parents, regular ed and special ed teachers, and students as partners in teaching and learning Provides direct and/or indirect goal setting and counseling relating to speech and language issues with school team, parents, families and students Provides pertinent information Refers for other services as appropriate
Supervision	Supervises support personnel, speech-language technicians, university practicum students, and speech-language pathologists in clinical fellowship year (CF) as assigned Completes performance appraisals for supervisee
Documentation	Documents and maintains student progress data Completes progress reports Completes Medicaid and other reports required by PSD
Professional development	Remains current in all aspects of the profession Stays abreast of educational issues Attends professional development
Professionalism	Maintains confidentiality Uses correct grammar and spelling in oral and written communication Dresses professionally and appropriately for setting Fulfills contract day commitment Adheres to ASHA Code of Ethics

American Speech-Language-Hearing Association

Ethics

Code of Ethics

Table of Contents

Preamble

The preservation of the highest standards of integrity and ethical principles is vital to the responsible discharge of obligations by speech-language pathologists, audiologists, and speech, language, and hearing scientists. This Code of Ethics sets forth the fundamental principles and rules considered essential to this purpose.

Every individual who is (a) a member of the American Speech-Language-Hearing Association, whether certified or not, (b) a nonmember holding the Certificate of Clinical Competence from the Association, (c) an applicant for membership or certification, or (d) a Clinical Fellow seeking to fulfill standards for certification shall abide by this Code of Ethics.

Any violation of the spirit and purpose of this Code shall be considered unethical. Failure to specify any particular responsibility or practice in this Code of Ethics shall not be construed as denial of the existence of

such responsibilities or practices.

The fundamentals of ethical conduct are described by Principles of Ethics and by Rules of Ethics as they relate to the responsibility to persons served, the public, speech-language pathologists, audiologists, and speech, language, and hearing scientists, and to the conduct of research and scholarly activities.

Principles of Ethics, aspirational and inspirational in nature, form the underlying moral basis for the Code of Ethics. Individuals shall observe these principles as affirmative obligations under all conditions of professional activity.

Rules of Ethics are specific statements of minimally acceptable professional conduct or of prohibitions and are applicable to all individuals.

Return to Top

Principle of Ethics I

Individuals shall honor their responsibility to hold paramount the welfare of persons they serve professionally or who are participants in research and scholarly activities, and they shall treat animals involved in research in a humane manner.

Return to Top

Rules of Ethics

A. Individuals shall provide all services competently.

B. Individuals shall use every resource, including referral when appropriate, to ensure that high-quality service is provided.

C. Individuals shall not discriminate in the delivery of professional services or the conduct of research and scholarly activities on the basis of race or ethnicity, gender, gender identity/gender expression, age, religion, national origin, sexual orientation, or disability.

D. Individuals shall not misrepresent the credentials of assistants, technicians, support personnel, students, Clinical Fellows, or any others under their supervision, and they shall inform those they serve

professionally of the name and professional credentials of persons providing services.

E. Individuals who hold the Certificate of Clinical Competence shall not delegate tasks that require the unique skills, knowledge, and judgment that are within the scope of their profession to assistants, technicians, support personnel, or any nonprofessionals over whom they have supervisory responsibility.

F. Individuals who hold the Certificate of Clinical Competence may delegate tasks related to provision of clinical services to assistants, technicians, support personnel, or any other persons only if those services are appropriately supervised, realizing that the responsibility for client welfare remains with the certified individual.

G. Individuals who hold the Certificate of Clinical Competence may delegate tasks related to provision of clinical services that require the unique skills, knowledge, and judgment that are within the scope of practice of their profession to students only if those services are appropriately supervised. The responsibility for client welfare remains with the certified individual.

H. Individuals shall fully inform the persons they serve of the nature and possible effects of services rendered and products dispensed, and they shall inform participants in research about the possible effects of their participation in research conducted.

I. Individuals shall evaluate the effectiveness of services rendered and of products dispensed, and they shall provide services or dispense products only when benefit can reasonably be expected.

J. Individuals shall not guarantee the results of any treatment or procedure, directly or by implication; however, they may make a reasonable statement of prognosis.

K. Individuals shall not provide clinical services solely by correspondence.

L. Individuals may practice by telecommunication (e.g., telehealth/e-health), where not prohibited by law.

M. Individuals shall adequately maintain and appropriately secure records of professional services rendered, research and scholarly activities conducted, and products dispensed, and they shall allow access to these records only when authorized or when required by law.

N. Individuals shall not reveal, without authorization, any professional or personal information about identified persons served professionally or identified participants involved in research and scholarly activities unless doing so is necessary to protect the welfare of the person or of the community or is otherwise required by law.

O. Individuals shall not charge for services not rendered, nor shall they misrepresent services rendered, products dispensed, or research and scholarly activities conducted.

P. Individuals shall enroll and include persons as participants in research or teaching demonstrations only if their participation is voluntary, without coercion, and with their informed consent.

Q. Individuals whose professional services are adversely affected by substance abuse or other health-related conditions shall seek professional assistance and, where appropriate, withdraw from the affected areas of practice.

R. Individuals shall not discontinue service to those they are serving without providing reasonable notice.

Return to Top

Principle of Ethics II

Individuals shall honor their responsibility to achieve and maintain the highest level of professional competence and performance.

Return to Top

Rules of Ethics

A. Individuals shall engage in the provision of clinical services only when they hold the appropriate Certificate of Clinical Competence or when they are in the certification process and are supervised by an individual who holds the appropriate Certificate of Clinical Competence.

B. Individuals shall engage in only those aspects of the professions that are within the scope of their

professional practice and competence, considering their level of education, training, and experience.

C. Individuals shall engage in lifelong learning to maintain and enhance professional competence and performance.

D. Individuals shall not require or permit their professional staff to provide services or conduct research activities that exceed the staff member's competence, level of education, training, and experience.

E. Individuals shall ensure that all equipment used to provide services or to conduct research and scholarly activities is in proper working order and is properly calibrated.

Return to Top

Principle of Ethics III

Individuals shall honor their responsibility to the public by promoting public understanding of the professions, by supporting the development of services designed to fulfill the unmet needs of the public, and by providing accurate information in all communications involving any aspect of the professions, including the dissemination of research findings and scholarly activities, and the promotion, marketing, and advertising of products and services.

Return to Top

Rules of Ethics

A. Individuals shall not misrepresent their credentials, competence, education, training, experience, or scholarly or research contributions.

B. Individuals shall not participate in professional activities that constitute a conflict of interest.

C. Individuals shall refer those served professionally solely on the basis of the interest of those being referred and not on any personal interest, financial or otherwise.

D. Individuals shall not misrepresent research, diagnostic information, services rendered, results of services rendered, products dispensed, or the effects of products dispensed.

E. Individuals shall not defraud or engage in any scheme to defraud in connection with obtaining payment, reimbursement, or grants for services rendered, research conducted, or products dispensed.

F. Individuals' statements to the public shall provide accurate information about the nature and management of communication disorders, about the professions, about professional services, about products for sale, and about research and scholarly activities.

G. Individuals' statements to the public when advertising, announcing, and marketing their professional services; reporting research results; and promoting products shall adhere to professional standards and shall not contain misrepresentations.

Return to Top

Principle of Ethics IV

Individuals shall honor their responsibilities to the professions and their relationships with colleagues, students, and members of other professions and disciplines.

Return to Top

Rules of Ethics

A. Individuals shall uphold the dignity and autonomy of the professions, maintain harmonious interprofessional and intraprofessional relationships, and accept the professions' self-imposed standards.

B. Individuals shall prohibit anyone under their supervision from engaging in any practice that violates the Code of Ethics.

C. Individuals shall not engage in dishonesty, fraud, deceit, or misrepresentation.

D. Individuals shall not engage in any form of unlawful harassment, including sexual harassment or power abuse.

E. Individuals shall not engage in any other form of conduct that adversely reflects on the professions or on the individual's fitness to serve persons professionally.

F. Individuals shall not engage in sexual activities with clients, students, or research participants over whom they exercise professional authority or power.

G. Individuals shall assign credit only to those who have contributed to a publication, presentation, or product. Credit shall be assigned in proportion to the contribution and only with the contributor's consent.

H. Individuals shall reference the source when using other persons' ideas, research, presentations, or products in written, oral, or any other media presentation or summary.

I. Individuals' statements to colleagues about professional services, research results, and products shall adhere to prevailing professional standards and shall contain no misrepresentations.

J. Individuals shall not provide professional services without exercising independent professional judgment, regardless of referral source or prescription.

K. Individuals shall not discriminate in their relationships with colleagues, students, and members of other professions and disciplines on the basis of race or ethnicity, gender, gender identity/gender expression, age, religion, national origin, sexual orientation, or disability.

L. Individuals shall not file or encourage others to file complaints that disregard or ignore facts that would disprove the allegation, nor should the Code of Ethics be used for personal reprisal, as a means of addressing personal animosity, or as a vehicle for retaliation.

M. Individuals who have reason to believe that the Code of Ethics has been violated shall inform the Board of Ethics.

N. Individuals shall comply fully with the policies of the Board of Ethics in its consideration and adjudication of complaints of violations of the Code of Ethics.

Return to Top

Index terms: ethics

Reference this material as: American Speech-Language-Hearing Association. (2010). *Code of ethics* [Ethics]. Available from www.asha.org/policy.

doi:10.1044/policy.ET2010-00309

Evolving Scope and Practice of the School-based Speech-Language Pathologist

The scope and practice of the Speech-Language Pathologist (SLP) is dynamic and evolving. Services began primarily as remediation of articulation, voice, and stuttering disorders in a pull-out setting. Later, identification and remediation of language disorders was included. Although the mission of the school-based SLP to improve the communication abilities of students remains the same, the roles, responsibilities and expectations now include a focus on educational progress in the general curriculum and the communication demands of participating in the work force. The school-based SLP keeps current in assessment and intervention. When providing services for students with disabilities, the SLP works to promote development and improvement of communication skills to facilitate a student's participation, socialization and learning. Many of these changes in practices were supported through the reauthorization of the Individuals with Disabilities Education Act '97 (IDEA) and strengthened in No Child Left Behind (NCLB) legislation and IDEA 2004. The information presented below summarizes many of the changes in the SLPs roles, responsibilities and expectations.

From Traditional Medical Model	To Educational Model
Disability determination process separate from other educational processes	Problem-solving process used throughout school improvement efforts (planning for districts, schools, groups of students, or individual students beginning with general education intervention)
No attempt to assist students prior to referral for special education	General education intervention plans devised by intervention team and implemented with the primary purpose to intervene early and pre-empt school failure
Treat disability outside of educational context	Educational context guides intervention; general education curriculum is supported with services provided by the SLP
Assessment battery prescribed and focused strictly on the student/learner	Assessment data collection driven by concerns for the student/learner, expectations of curriculum, instruction, and classroom environments
Arbitrary application of psychometric data	Determination of needs and services based on curriculum and district standards
Speech-language services provided solely by SLP (specialist model)	SLPs and other service providers form a continuum of service delivery options (SLP as collaborator, facilitator of service delivery)
Perceives SLPs' caseload as the number of students served in direct intervention	SLPs' workload determined by analyzing all of the responsibilities required to ensure that students receive appropriate quantity and quality of services under NCLB and IDEA 2004

Standard service time arbitrarily used for most students	Research basis for individualized service time and delivery; use of options in service continuum
Standard assessment battery unilaterally determined by SLP	Team considers existing data and determines if additional information is needed
SLPs functioned as autonomous disciplines	Validation of interdependence of team members; teams make decisions, not individuals
Goals and objectives were discipline-specific	Integrated goals and objectives written based on present levels of educational performance and family/curriculum expectations
Family members' role as recipient of information presented by professionals	Family members' role as active participants in educational planning
Focus on mechanics of language and communication	Focus on educational outcomes, quality and efficacy
Delivery models failed to support the intent of least restrictive environment (LRE)	LRE is supported by interventions driven by curriculum and classroom needs
Language and learning are linked	Language and learning are interdependent
Parents and general education teacher(s) are passive members of IEP teams	Parents and general education teacher(s) are active members of the process, beginning with general education intervention through evaluation, IEP, services and placement decisions.
Staff development is perceived as an add-on, a bonus	Realization that in order to impact educational results for students, SLPs and their employers must commit to on-going, results-based professional learning
Interventions and therapy activities are chosen by the SLP from an array of suggestions	Use of peer-reviewed research-based services and interventions are expected and required by law (IDEA 2004)

Child Find

- Fall district newsletter will contain facts on Child Find and hearing screenings.
- Share Speech Therapy Newsletter with teachers in your school.
- Speech and Language Screener will be included in Kindergarten inventory for teacher's to make a referral if there are any concerns.
- Screening sentence protocol will be administered to each Third Grade student in every elementary school.
- Share Speech Therapy Newsletter with teachers in your school.
- Hand out New Student Speech-Language and Voice Screening Instrument to teachers as appropriate.
- Use Communication Observation Form as appropriate for new referrals or to document strengths/weaknesses and/or generalization of skills in general or special education classroom of current students.
- The district audiologist oversees the district's hearing screening program. The speech-language pathologist assigned to each school assists in carrying out the screening, which takes place every school year. The following grades are to be screened: Kindergarten, First, Second, Third and Seventh. In addition, all students who are in Special Education and who are new to the school District are screened. Whenever a parent or teacher has a specific concern regarding a student's hearing, the speech-language pathologist will administer a hearing screening test to that student. A referral to the district audiologist for further testing is made as appropriate.

The Speech Therapy Newsletter

Speech-Language Therapy is often thought of as articulation therapy only. There are, however, four parts of the classification Speech-Language Impairment. The following is a short summary of the areas that are a part of Speech-Language Therapy:

Articulation: This area addresses how a child pronounces the sounds of language. Eligibility for therapy is based on developmental norms. This is because, for some students, more difficult sounds can be corrected on their own as part of the maturation process. For example, it is not unusual for a Kindergarten or First Grade student to make errors on the /s/ and /r/ sounds. At any age, however, if the student has so many errors it is difficult for you and others to understand them, exceptions are made regarding established developmental norms. By age 8, no students should have articulation errors.

Language: This area deals with verbal language. Difficulties in this area are often shown with students who are *significantly* delayed in verbal conversations as well as reading, math and/or written language. Vocabulary, Situational Problem Solving, Following Directions, Auditory Memory and Reasoning, Grammar, Tensing, Conversation Skills, Answering and Asking Questions, etc., are all examples of targets of language therapy. A student who qualifies for language therapy almost is always a candidate for other Special Programs service because of academic concerns.

Voice: This area addresses a child's voice sounding either too breathy or hoarse, as if he/she is talking through his/her nose, or has a cold all the time. (Of course, this could be because of allergies or an upper respiratory infection – disqualifying the child for voice therapy.) Often, there is a physiological reason for this and medical attention should not be delayed.

Stuttering/Fluency: Stuttering difficulties are often described as "bumpy" speech. It can sound like a student repeats sounds or words when talking and/or has a lot of "fillers" such as "and" or "the".

Another part of my job is to assist the audiologist with the hearing program. I will be screening all Kindergarten, First, Second and Third Grade students as well as students who are in Special Programs or who are new to the district. IF, AT ANY TIME, YOU HAVE A CONCERN REGARDING A STUDENT'S HEARING – please contact me and I will administer a hearing-screening test and refer to the District Audiologist if necessary.

If, at any time, you have a question regarding this material or any other concerns, please contact me personally or e-mail me at:

Student Speech-Language and Voice Screening Instrument

Student Name: _____ Screening Date: _____

Teacher: _____ Grade: _____

Language spoken at home/school: _____/ _____

Does the student have limited English proficiency? ___ yes ___ no

In comparison to his/her peers:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

The student is difficult to understand.	N	S	F	A
The student has a hoarse and/or nasal voice that does not seem related to a cold or allergies.	N	S	F	A
The student has difficulty with phonological awareness activities (e.g., rhyming, sound blending, syllable segmentation).	N	S	F	A
The student has difficulty following directions and/or responding to questions.	N	S	F	A
The student has difficulty making his/her wants and needs known.	N	S	F	A
The student has difficulty using complete sentences or correct grammar.	N	S	F	A
The student has limited vocabulary.	N	S	F	A
The student has difficulty expressing an idea or event (e.g., what he did over the weekend).	N	S	F	A
The student appears frustrated when speaking.	N	S	F	A
The student exhibits part-word or word repetitions, sound blockages, or excess facial or neck movement when speaking (e.g., stuttering).	N	S	F	A

Comments:

_____

Teacher Signature Date

Informal Articulation Screening Evaluation

Student: _____ Birthdate: _____ Grade: ___

Classroom teacher: _____Date: _____

Speech-Language Pathologist: _____

This screening instrument is designed as an indicator of possible articulation student errors and does not take the place of a formal evaluation. The therapist circles the deviant phoneme(s) and then consults with the school Team regarding possible referral for further evaluation. The individual student repeats each of the following sentences after the Speech-Language Pathologist:

1) The panther ran through the forest.
2) I did six somersaults on the grass.
3) The little lamb is lost.
4) The girl is wearing a red ribbon in her hair.
5) I like chocolate chip cookies.
6) The vacuum is in the living room.
7) There are thirty-three teeth in my mouth.
8) Should I go to church on Sunday?
9) The rabbit ran across the road.
10) Santa Claus is sitting on the school bus.
11) The shovel is very heavy to lift.
12) There are three presents underneath the Christmas tree.
13) Father threw the rake over the roof.
14) I missed six words on my spelling test.
15) Thank-you for my birthday present.
16) Kathy kicked the can over the fence.
17) My favorite colors are red and orange.
18) Pam blew bubbles over the pup.

Communication Observation Form

Student: _____ Birthdate: _____ Grade: ____

Classroom Teacher: _____Observer: _____

Date: _____ Time: _____ Length of Observation: _____

Reason for Observation: _____

Setting: (classroom, playground, cafeteria, etc.) _____

Physical Environment: Where is the student seated? What is student's proximity to teacher?

____ at table	____ at desk	____ on the floor
____ on chair in group	____ at listening center	____ at learning center
____ at chalkboard	____ middle of room	
____ front of room	____ back of room	

____ other: _____

Auditory Environment: (background noise, outside noise, etc.) _____

Language Demands of the Activity/Instruction: (include examples)

Comprehension: ____ low ____ high

Verbal Demands: ____ low ____ high

Responsiveness to Instructional Strategies:

____ wait time	____ repetition	____ rephrasing
____ visual supports	____ graphic organization	

____ other: _____

Is the student's communication comparable to the other students?

____ Yes ____ No

Comments:

Provo City School District Core Speech And Language Tests

(These can be used if current editions are in possession of the individual therapist)

Functional Language Tests (non-verbal/ID)

The Non-Speech Test of Receptive and Expressive Language

Language Tests

Global—tests BOTH Receptive and Expressive Language Skills

Oral and Written Language Scales (OWLS)
Comprehensive Assessment of Spoken Language (CASL)
Clinical Evaluation of Language Fundamentals-4 (CELF-4)
Clinical Evaluation of Language Fundamentals-4 Spanish (CELF-4 Spanish)
Preschool Language Scale-5 (PLS-5)
Preschool Language Scale-5 Spanish (PLS-5 Spanish)

Supplemental—tests EITHER Receptive OR Expressive Language Skills

Peabody Picture Vocabulary Test IV (PPVT-IV)
Expressive One Word Picture Vocabulary Test—Bilingual Version
Receptive One Word Picture Vocabulary Test—Bilingual Version
Language Processing Test-3 (LPT-3)
WORD Test 2: Elementary
WORD Test 2: Adolescent
Test of Narrative Language (TNL)

Other Language Tests

Spanish Version of PPVT-R (TVIP) (Supplemental Test)
Test of Language Competence-Expanded (TLC-E) [Global Test)

Phonology and Articulation Tests

Goldman-Fristoe Test of Articulation-2 (GFTA-2)
Arizona Articulation Proficiency Scale-3 (AAPS-3)
Clinical Assessment of Articulation and Phonology (CAAP)
Contextual Probes of Articulation Competence – Spanish (CPAC-S)
Kahn-Lewis Phonological Analysis-2 (KLPA-2)

Stuttering/Fluency

Stuttering Severity Instrument – 4 (SSI-4)
Stuttering Intervention Program (SIP)
Test of Childhood Stuttering (TOCS)

Voice Tests

Buffalo III Voice Profile/ Buffalo III Voice Abuse Profile
Quick Screen For Voice
IOWA Pressure Articulation Test

Auditory Processing Tests to be administered by SLP's

Test of Auditory Perceptual Skills-3 (TAPS-3)

Communication Scales as a Tool in the Determination of Eligibility for Speech-Language Services

The communication scales are designed for SLPs and to be used *after completing an assessment and evaluation* of students in elementary, middle, and high school. When a child has a communication impairment, such as in fluency, phonology and articulation, voice, or language that adversely affects his or her educational performance and, as a result, needs special education and related services, that child is considered to have a disability under IDEA.

Communication Rating Scales:

The communication rating scales are to be used as a tool after a complete assessment of the student's communication abilities and after the SLP has interpreted assessment results. This tool is designed to allow SLPs to document the presence of assessment findings according to the intensity of those findings and to then make a determination, based on the assessment result, of eligibility for speech-language disability and services. The scale is not to be used as a diagnostic instrument and should not be used in the absence of assessment data.

The following definitions are included to accompany the communication rating scale:

"*A language impairment* is impaired comprehension and/or use of spoken, written, and/or other symbol systems. The disorder may involve (1) the form of language (phonology, morphology syntax), (2) the content of language (semantics), and/or (3) the function of language in communication (pragmatics) in any combination. A language impairment does not exist when (1) language performance is appropriate to normal development, (2) language differences are primarily due to environmental, cultural or economic factors including non-standard English and regional dialect, (3) language performance does not interfere with educational performance.

An articulation impairment is the atypical production of speech sound that may interfere with intelligibility. Errors in sound production are generally classified as motor-based or cognitive/linguistic-based. Motor-based errors are generally called articulation impairments; cognitive/linguistic-based errors are referred to as impairments of phonological processes. While some practitioners classify phonological process errors as language impairments, for purposes of these guidelines they are included, along with articulation impairments under the category of phonology/articulation. An articulation impairment does not exist when: (1) sound errors are consistent with normal articulation development, (2) articulation differences are due primarily to unfamiliarity with the English language, dialectal differences, temporary physical disabilities or environmental, cultural or economic factors, (3) the errors do not interfere with educational performance.

A fluency impairment is defined as an interruption in the flow of speaking, characterized by atypical rate, rhythm, and repetitions in sounds, syllables, words, and phrases. This may be accompanied by excessive tension, struggle behavior and secondary mannerisms. A fluency impairment does not exist when (1) dysfluencies are part of normal speech development, (2) dysfluencies do not interfere with educational performance.

A voice impairment is the abnormal production and/or absence of vocal quality, pitch, loudness, resonance, and/or duration which is inappropriate for an individual's age and/or gender. A voice impairment does not exist when vocal characteristics (1) are the result of temporary physical factors, such as allergies, colds, enlarged tonsils and/or adenoids, or short term vocal misuse or abuse, (2) are the result of regional, dialectic or cultural differences, (3) do not interfere with educational performance. The American Speech-Language-Hearing Association (ASHA) recommends that individuals receive a medical examination and medical clearance from contraindicating physical problems prior to participating in voice therapy.

Procedures for using the communication scales:

1. Prior to or during the speech-language assessment, provide and then collect the teacher checklists appropriate to each student's communication needs. The checklists accompany each of the communication scales. The checklists will assist the SLP in selecting and administering relevant assessment tools and verifying that the communication problem has an adverse affect on educational performance.

2. When standardized tests are used, the threshold for determining disability is 1.5 standard deviations below the mean of the test. The threshold for determining disability based on other procedures will vary according to the procedures selected.

3. Use the communication scales matrix to rate the student's communication in all areas determined necessary. Identify and circle the scores in each row of the scale. Since scores in each row contribute to the total score, it is necessary to determine a score for each row. Note also that the scores within rows (e.g., sound production, stimulability, intelligibility, oral motor and/or motor sequencing, and adverse affect on educational performance) are weighted in accordance to its importance in the determination of disability. Do not alter these weighted scores by using half or other full points. For example, do not score intelligibility as a "7" or stimulability as a "2.5".

4. Add the scores from each row to obtain the **Total Score (TS)** and assign the **Final Rating (FR)** of 1, 2, 3, or 4 to the scale that corresponds to normal, mild, moderate, or severe.

5. When more than one rating scale is used for a student, all the **FR**s should be used to determine a single rating as follows:

   One or more ratings of A = A
   One or more ratings of B = B
   One rating of C = C
   Two or more ratings of C = D
   One or more ratings of D = D

6. The **FR** is used as a tool in determining the need for speech-language services.

   Ratings of A or B: Collected data does not demonstrate the need for specialized services at this time.
   Ratings of C or D: Collected data demonstrates the need for specialized services at this time.

7. The comment section may include statements regarding discrepancies among individual tests, subtests, classroom performance, and other factors that are relevant to the determination to the determination of severity.

Variance in Determining Final Rating

When the **FR** has been determined, professional judgment may be used to add or subtract one rating point after considering the significance and impact of the following factors:

1. History of general and special education standardized testing
   a) standard deviation from the mean
   b) evidence of growth through education
   c) profile of strengths and needs
2. Educational growth
   a) rate of learning
   b) growth profile over time
3. Participation in the general curriculum
4. Progress in the general education curriculum through classroom interventions
5. School history/attendance
6. Consistency of general and/or special education programming
7. Student motivation toward general and/or special education programming
8. Consistent use of general or special education supports
9. Student's attention during instruction

The use of the variance should be considered only during the eligibility meeting so that all team members are able to discuss the factors involved. Document the factors and the rating on the "determination of eligibility" form of the IEP document.

Communication Scales
Example Cases

The purpose of the following examples is to show how the communication scales are used to determine eligibility for Speech-Language Services. The format may be used by SLPs when writing reports after the assessment and evaluation process is complete.

Case #1 Phonology and Articulation

Student: Jade C.A.: 6 years, 4 months

Background Information: Jade is in the first grade. She did not attend preschool and was home schooled in Kindergarten. Jade was referred for a speech and language evaluation by her first grade teacher citing multiple speech errors and poor intelligibility. Gross/fine motor screenings indicate these skills within typical ranges. There are no reported language problems. Current health status is good. However, Jade has a history of ear infections between 18 months and three years of age. By parent and teacher report, Jade enjoys being social, but interactions are negatively impacted by Jade's inability to successfully communicate with her peers.

Oral mechanism examination: Structures are adequate for typical oral motor functioning necessary for eating and speech. Oral motor coordination for isolated speech sounds and non-speech movements is within the typical range. Oral motor coordination for sequenced speech sounds is immature.

Phonology/Articulation: Goldman-Fristoe 2 Articulation Test — 77 SS; Intelligibility determined to be 85%

A Standard Score of 78 or below or substantially low intelligibility indicates a phonology/articulation disability. Errors include t/k, d/g (initial word position only), j/l, d/th/ t/s (initial position only), s/sh, w/r, t/ch (initial position only), reduced /s/ and /l/ blends. Errors are consistent throughout conversational speech. Stimulability for age appropriate sounds is good. Teacher input indicates that speech is very difficult to understand in unknown contexts.

Language: Preschool Language Scales 4

Auditory Comprehension:	89 SS (Within 1 SD of mean)
Expressive Communication:	85 SS (borderline 1 SD of mean)

Developmental syntax errors were noted in both formal testing and in the informal language sample. Difficulty with sentence repetition was also noted.

Voice and Stuttering/Fluency: Within typical limits

Overview of Communication Rating Scales:

Phonology/Articulation Rating Scale		
Sound Production:	Score = 3	
Stimulability:	Score = 1	
Intelligibility:	Score = 3	
Oral Motor/Motor Sequencing:	Score = 2	
Adverse Affect:	Score = 3	
Total Score:	Score = 17	(falls within Column C)
Language Rating Scale		
Formal:	Score = 2	
Informal:	Score = 2	
Adverse Affect:	Score = 0	
Total Score:	Score = 4	(falls within Column A)
Voice Rating Scale		
Total Score:	Score = 0	(falls within Column A)
Stuttering and Fluency Rating Scale		
Total Score:	Score = 0	(falls within Column A)

Rating Summary: A rating of C on the Phonology/Articulation Rating Scale may qualify this student as eligible for speech-language services.

Case # 2 Phonology and Articulation

Student: Rio C.A.: Three years, six months

Background Information: Rio is attending morning preschool and afternoon daycare five days a week at Sunshine Child Center. He was referred for a speech and language evaluation by his preschool teacher, due to multiple speech errors and poor intelligibility. Gross/fine motor screenings indicate skills within typical range. There are no concerns with isolated play skills, but Rio is not very communicative with peers or teachers. Current health status is good. There is no history of ear infections, but by parent report, Rio exhibited weak suck at birth, had difficulty transitioning to solid foods, is a "messy eater" and only stopped drooling several months ago.

Oral mechanism examination: Structures are typical. Oral motor skills for eating/drinking appear weak or immature. Rio demonstrates poor grading of jaw movement, weak lip closure, and decreased tactile awareness around his oral/facial area. Oral motor coordination for both speech and non-speech sounds is poor. Rio has difficulty imitating sequenced oral movements and multi-syllable combinations. Groping of articulators was noted during imitation tasks.

Articulation/Phonology:	Goldman-Fristoe 2 Articulation Test	78 SS Intelligibility determined to be 75%

A Standard Score of 78 or below or substantially low intelligibility indicates a phonology/articulation disability. Analysis of errors indicates that single word productions (in imitation) are generally intelligible and errors are developmental in nature. However, errors increase significantly as complexity of words and phrases increases. Single word errors include: t/k, d/g, j/l, d/th, -f/-s, t/sh, -t/-ch and reduced blends. Errors in conversation include omission of many medial and final sounds, omission of syllable in multiple syllable words, and blend/cluster reductions. Stimulability of age appropriate sounds in isolated imitation tasks is good. Stimulability at the word level decreases significantly.

Language: Preschool Language Scale 4
Auditory Comprehension: 91 SS (within 1 SD of the mean)
Expressive Communication: 70 SS (within 1.5 SD of the mean)
Developmental syntax errors were noted. Difficulty with sentence repetition and answering WH questions were also noted.

Stuttering/Fluency: Mild, infrequent sound and word repetitions

Voice: Within typical limits

Overview of Communication Rating Scales

Phonology/Articulation Rating Scale		
Sound Production:	Score = 3	
Stimulability:	Score = 3	
Intelligibility:	Score = 6	
Oral Motor/Motor Sequencing:	Score = 3	
Adverse Affect:	Score = 6	
Total Score:	Score = 21	(falls within Column C)
Language Rating Scale		
Formal:	Score = 3	
Informal:	Score = 2	
Adverse Affect:	Score = 4	
Total Score:	Score = 9	(falls within Column B)
Voice Rating Scale		
Total Score:	Score = 0	(falls within Column A)
Stuttering/Fluency Scale		
Total Score:	Score = 0	(falls within Column A)

Rating Summary: A rating of C on the Phonology/Articulation Rating Scales may qualify this student as eligible for Speech-Language Services.

Case #3 Functional Language

Student: Ethan C.A: 8 years, 3 months

Background Information: Ethan is attending third grade at Riverside Elementary. He has a medical diagnosis of cerebral palsy as the result of anoxia at birth. Ethan is not ambulatory, does not speak, and has limited control of arms/hands. He does eat solid foods and drinks from a cup, but requires full assistance. Food textures and bite sizes need to be monitored for safety. He passed a hearing screening involving sound field testing and tympanometry. Vision was screened through informal activities. Ethan appears to recognize familiar objects and pictures, but has difficulty tracking items across midline. Distance vision is questionable. Ethan enjoys school, attends to TV, music, other students, and likes to be outside or engaged in physical movement on a mat or large ball. Testing was completed by informal activities, developmental norms, observation, play interactions, and parent/teacher report.

Oral Mechanism Examination: Structures are typical, but oral motor control is limited. Ethan demonstrates a weak bite, tongue protrusion while chewing, and a simple munch pattern for most food textures. He attempts simple oral motor movements when requested, such as "open your mouth", "stick out your tongue", and "blow a kiss", but control and grading are limited.

Articulation: Ethan demonstrates voluntary vocalizations, but cannot produce consistent speech sounds in imitation. Oral motor control is limited and verbal speech is not adequate for communication at this time.

Language/Communication: Ethan enjoys interactions with other people. He visually orients to people and their movements, returns a smile, attempts to say "hi" and laughs with his peers. Receptively, Ethan identifies familiar objects, clothes and body parts by eye gaze and attempted reaching. He follows simple directions such as "knock it down" (blocks), "wait", "arms up please" and points to colors blue and green consistently. Expressively, Ethan vocalizes for attention, uses facial gestures and indicates yes/no by nodding his head to answer simple questions. He is learning to make choices with a steady eye gaze when offered two objects or pictures. Ethan operates a single switch to turn on a tape recorder and uses a Macaw appropriately at snack time to ask for snacks. Ethan has not yet demonstrated the ability to answer simple questions about familiar stories by eye gaze/pictures.

Voice and Stuttering/Fluency: Not Applicable at this time.

Overview of Communication Rating Scales

Articulation Rating Scale	NA
Language Rating Scale	NA
Voice Rating Scale	NA
Stuttering/Fluency Rating Scale	NA

Since informal assessment was the only option for this student, the Functional Communication Scale should be used to rate this student's abilities in communication.

Functional Communication Rating Scale

Communicative Interactions	Score = 4
Communication Methods	Score = 4
Comprehension of Language	Score = 3
Adverse Affect	Score = 4
Total Score 2	5 (falls within Column C)

Rating Summary: A rating of C on the Functional Communication Rating Scale may qualify this student as eligible for Speech-Language Services.

Case # 4 Language

Student: Brandon C.A.: 13 years, 4 months

Brandon is a seventh grade middle school student. A review of his cumulative file indicates that written language has always been an area of need. He received small group support through the school-wide intervention program in fifth ad sixth grade. Brandon's performance on the CSAP was in the Unsatisfactory Range. Brandon has been referred for a Special Education assessment due to failing grades in language arts and Ds in Science and Social Studies. Brandon also has not met the sixth and seventh grade Writing Standards. He is motivated and wants to succeed, but is showing increasing frustration.

Oral Language: CELF 4

Expressive Language:	112 SS
Receptive Language:	103 SS
Total Language:	107 SS (average range)

Written Language: TOWL 3 (administered by learning specialist)

Thematic Maturity:	11 SS
Contextual Vocabulary:	3 (below average)
Syntactic Maturity:	5 (below average)
Contextual Spelling:	3 (below average)
Contextual Style:	11 SS
Spontaneous Language Quotient:	77 SS

Cognition: WISC 4

Verbal:	82 SS
Performance:	90 SS
Full Scale:	88 SS

Overview of Communication Rating Scales

Language Rating Scales

Formal Language:	Score = 0
Informal Language:	Score = 3
Adverse Affect:	Score = 8
Total	Score = 11 (falls within Column C)

Rating Summary: This student may qualifiy for written language Resource support with SLP consultation as appropriate.

Case #5 Language/Culturally and Linguistically Diverse

Student: Maria C.A: 11 years, 2 months

Background Information: Maria was born in Mexico and is currently in the fourth grade. She has been in the U.S. public schools since Kindergarten. Maria frequently goes to Mexico with her parents and has extended periods of absence from school. She has age

appropriate social interactions with peers in both English and Spanish. Vocabulary, sentence structure and grammar appear to be within age appropriate limits. She is able to answer "WH" questions and follows typical classroom directions and routines. She is able to calculate change accurately in the family restaurant and in class activities. Maria received ESL services for two years, however, her parents requested the ESL services be discontinued. They prefer her to learn through English immersion. Since the discontinuation of ESL services, Maria's grades have dropped and she demonstrates an overall negative attitude toward school. Review of data indicates no disability in all communication areas. There is no need for Standardized testing.

Overview of Communication Rating Scales

Articulation: Total Score	Score = 2
Language (Spanish): Total Score	Score = 2
Voice Score:	NA
Stuttering and Fluency:	NA
Total Score:	Score = 4 (falls within Column A)

Rating Summary: Maria may not qualify for Speech-Language Services. She may need to be re-enrolled in ESL Services and parents need education/counseling about second language acquisition.

The Functional Communication Section is currently in development.

Language Evaluation Guidelines

A language impairment is impaired comprehension and/or use of spoken, written, and/or other symbol systems. The disorder may involve (1) the form of language (phonology, morphology syntax), (2) the content of language (semantics), and/or (3) the function of language in communication (pragmatics) in any combination. A language impairment does not exist when (1) language performance is appropriate to normal development, (2) language differences are primarily due to environmental, cultural or economic factors including non-standard English and regional dialect, (3) language performance does not interfere with educational performance.

1) Formal assessment:

- Must have 2 language tests
- Must have at least 1 global test
- Assess narrative skills as appropriate using TNL
- If student is Culturally and Linguistically Different (CLD)
    - Tests must be administered by bilingual SLP or SLP with interpreter (use Spanish assessments if appropriate or write disclaimer if interpreted into a different language)
    - If English is primary language, test in English and probe missed items in secondary language
    - If bilingual, disability must be evident in both languages
    - If student does not speak English, disability must be evident in primary language

Language Tests

Global—tests BOTH Receptive and Expressive Language Skills

Oral and Written Language Scales (OWLS)
Comprehensive Assessment of Spoken Language (CASL)
Clinical Evaluation of Language Fundamentals-4 (CELF-4)
Clinical Evaluation of Language Fundamentals-4 Spanish (CELF-4 Spanish)
Preschool Language Scale-4 (PLS-4)
Preschool Language Scale-4 Spanish (PLS-4 Spanish)

Supplemental—tests EITHER Receptive OR Expressive Language Skills

Peabody Picture Vocabulary Test IV (PPVT-IV)
Expressive One Word Picture Vocabulary Test—Bilingual Version
Receptive One Word Picture Vocabulary Test—Bilingual Version
Language Processing Test-3 (LPT-3)
WORD Test 2: Elementary
WORD Test 2: Adolescent
Test of Narrative Language (TNL)

Other Language Tests

Spanish Version of PPVT-R (TVIP) (Supplemental Test)
Test of Language Competence-Expanded (TLC-E) (Global Test)

2) Informal Assessment:

- Language sample/clinical opinion
- Other Teacher Checklists as appropriate
- Discourse Analysis (Damico)
- Assess function/use of language in communication (pragmatics) as appropriate using: Conversational Effectiveness Profile (Kowalski)
  Pragmatic Protocol (Prutting & Kirchner)

3) Adverse Effect on Educational Performance:

- Teacher Input Form (must have)
- Parent Input Form (document in comments if not returned)
- Student Input Form as appropriate
- CLD Input Forms as appropriate
- Other Teacher Checklists as appropriate
- Other CLD Checklists/Interviews as appropriate

Language Rating Scale Instructions

1. Circle the appropriate scores for each of the three categories: Formal assessment, informal assessment/language sample and adverse affect on educational performance. The worksheet can be used to summarize assessment data.

2. Determination of the rating for formal assessments should be based on derived scores of relative standing, such as Standard Scores or Percentiles.

3. Determination of the rating for informal assessment requires professional judgment and reference to normative data. Consider the results of language samples, teacher-made tests, observation, etc.

4. When dialect or other language influence is observed, complete a comparative analysis of such differences prior to applying the rating system. (See CLD section)

5. Use the Teacher Input Form regarding language to assess the adverse affect on educational performance.

6. Circle the score for each row and add them to obtain the **Total Score (TS)** and the corresponding **Final Rating (FR)**.

Total Score: 0-6	No Disability	Final Rating A
Total Score: 7-9	Mild	Final Rating B
Total Score: 10-13	Moderate	Final Rating C
Total score: 14-16	Severe	Final Rating D

7. When more than one rating scale is used for a student, all the **FRs** should be used to determine a single rating as follows:

One or more ratings of	A = A
One or more ratings of	B = B
One rating of	C = C
Two or more ratings of	C = D
One or more ratings of	D = D

8. The **FR** is used as a tool in determining the need for speech-language services.

   Ratings of A or B: Collected data does not demonstrate the need for specialized services at this time.
   Ratings of C or D: Collected data demonstrates the need for specialized services at this time.

   If indicated, a variance may be applied to the **FR.** (See following page)

9. The comment section may include statements regarding discrepancies among individual subtests, classroom performance and other factors that are relevant to the determination of severity.

Variance in Determining Final Rating

When the **FR** has been determined, professional judgment may be used to add or subtract one rating point after considering the significance and impact of the following factors:

1. History of general and special education standardized testing
   a) standard deviation from the mean
   b) evidence of growth through education
   c) profile of strengths and needs
2. Educational growth
   a) rate of learning
   b) growth profile over time
3. Participation in the general curriculum
4. Progress in the general education curriculum through classroom interventions
5. School history/attendance
6. Consistency of general and/or special education programming
7. Student motivation toward general and/or special education programming
8. Consistent use of general or special education supports
9. Student's attention during instruction

The use of the variance should be considered only during the eligibility meeting so that all team members are able to discuss the factors involved. Document the factors and the rating on the "Determination of Eligibility" form of the IEP document.

Language Rating Scale

Student: _____ Date:_____

School: _____ SLP: _____

Formal Assessment in Receptive, Expressive and/or Written Language **Test Administered:** **_____**	Score = 0 SD = 0 - 0.99 SS: 86 - 100 PR: 17 - 50 Check skills that were assessed: __auditory skills __form/structure __content/semantics __use/pragmatics __metalinguistics	Score = 2 SD = 1.0 - 1.49 SS: 79 - 85 PR: 8 - 16 Check skills that were assessed: __auditory skills __form/structure __content/semantics __use/pragmatics __metalinguistics	Score = 3 SD = 1.5 - 1.99 SS: 71 - 78 PR: 3 - 7 Check skills that were assessed: __auditory skills __form/structure __content/semantics __use/pragmatics __metalinguistics	Score = 4 SD = 2.0 or more SS: <62 - 70 PR: <1 - 2 Check skills that were assessed: __auditory skills __form/structure __content/semantics __use/pragmatics __metalinguistics
Informal Assessment or Language Sample in Oral and/or Written Language	Score = 0 Language skills are developmentally appropriate and do not interfere with communication	Score = 2 Language skills are mildly delayed and consist of some errors that do not significantly interfere with communication	Score = 3 Language skills are below the average range; errors are noticeable and interfere with communication	Score = 4 Language skills are significantly below average; errors are prevalent and greatly interfere with communication
Adverse Affect on Educational Performance (Social, Emotional, Academic, Vocational)	Score = 0 Language skills are adequate for the student's participation in educational settings	Score = 4 Language skills are developing and can be addressed in the student's educational settings	Score = 6 Language skills have an affect on the student's ability to participate in educational settings	Score = 8 Language skills have a significant impact on the student's ability to participate in educational settings
Total Score	**0 2 3 4 5 6**	**7 8 9**	**10 11 12 13**	**14 15 16**
Final Rating	**No Disability A**	**Mild B**	**Moderate C**	**Severe D**

Comments:

Language
Teacher Input Form

Student's Name: _____Date: _____

Teacher's Name:_____ Birth Date/Age:_____/ ____

Language spoken at home/school:_____ / _____

Please describe your student's top two strengths:_____

Please describe your student's main difficulties: _____

_____

_____

Does your student have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

					Subject(s) where difficulty occurs
Understanding directions or discussions, lectures?	N	S	F	A	_____
Understanding written directions or text?	N	S	F	A	_____
Recalling words and information?	N	S	F	A	_____
Understanding concepts in math, social studies, and science?	N	S	F	A	_____
Understanding and using age-level vocabulary?	N	S	F	A	_____
Understanding and expressing age-level figurative language?	N	S	F	A	_____
Using age-appropriate sentences?	N	S	F	A	_____
Using age-level grammatical skills?	N	S	F	A	_____
Understanding and asking questions?	N	S	F	A	_____
Participating in classroom discussions?	N	S	F	A	_____
Relating information in an organized, sequential manner?	N	S	F	A	_____
Remembering details?	N	S	F	A	_____
Completing written assignments?	N	S	F	A	_____
Taking notes in class?	N	S	F	A	_____
Test taking?	N	S	F	A	_____
Are written errors similar to oral language errors?	N	S	F	A	_____
Having behavior difficulties in structured situations?	N	S	F	A	_____
Having behavior difficulties in unstructured situations?	N	S	F	A	_____

Does your student try to make himself/herself understood? _____Yes _____No

If yes, please describe:_____

Please list any accommodations you have already tried for this student: (e.g., increased wait time, shortened assignments, reading tests etc.), _____

Please discuss academic progress concerns here, or attach a current progress/report card:

_____

Teacher Signature Date

Language
Parent Input Form

Student's Name: _____Date: _____

Parent's Name:_____ Birth Date/Age:_____/ _____

Language spoken at home/school:_____ / _____

Please describe your child's strength: _____ / _____

What concerns do you have for your child's education? _____

_____

_____

Does your child have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

Understanding directions or discussions?	N	S	F	A
Understanding written directions or text?	N	S	F	A
Recalling words and information?	N	S	F	A
Understanding and using age-level vocabulary?	N	S	F	A
Understanding and expressing age-level figurative language?	N	S	F	A
Using age-appropriate sentences?	N	S	F	A
Using age-level grammatical skills?	N	S	F	A
Understanding and asking questions?	N	S	F	A
Participating in discussions?	N	S	F	A
Relating information in an organized, sequential manner?	N	S	F	A
Remembering details?	N	S	F	A
Completing homework assignments?	N	S	F	A
Expressing needs and wants?	N	S	F	A
Expressing thoughts and ideas?	N	S	F	A
Expressing feelings or frustrations?	N	S	F	A

Does your child appear frustrated by his/her language difficulty? _____Yes _____No

Does your child have difficulty communicating with siblings?____ peers?____ adults? _____

If yes, please describe:_____

_____

How do your child's language difficulties impact him/her?_____

_____

Comments:

_____

Parent Signature Date

Language
Student Input Form

Student's Name: _____Date: _____

Teacher: _____ Grade: _____

Birth Date/Age: _____ / _____

Language spoken at home/school:_____ / _____

1. What are usually your easiest subjects? _____
2. Why do you think these subjects are easier for you? _____
3. What are usually your hardest subjects? _____
4. What is hard about these subjects? _____
5. Think of a teacher who has really helped you learn. What did this teacher do that worked for you? _____
6. Think of a teacher whose way of teaching was not good for you. What did this teacher do that did not work for you?
7. How often are you bored in class? __Never __Sometimes __Frequently __Always What do you do to pay better attention?
8. How often do you ask questions in class? __Never __Sometimes __Frequently __Always What keeps you from asking questions? __Embarrassed __Not enough time __Worried about teacher response __Worried about others response
9. Do you catch onto new lessons ___easily, or __do you prefer extra explanation? Does it depend on the class?
10. When you learn something, do you usually __remember it, or __do you have to go over it a lot to remember? Is it __easier,__harder, or__the same to learn outside of school.
11. How often are you graded down for late or missing assignments?
12. Do you write your assignments down?
13. Do you usually remember to bring your books and materials __Home __To School?
14. Can you predict how well you did on a test? __Yes __Often Surprised If surprised do you get a __higher grade, or __lower grade, or __does it vary by test/subject?
15. Are you receiving any special help? __Yes __No If yes what kind of help and by whom?
16. Do you have trouble understanding teacher directions? __Yes __No What test questions mean? __Yes __No Can you usually explain your ideas__easily, or is it __hard to say what you mean? Do you have more trouble talking to__kids or__adults?
17. Have you ever worked with a Speech-Language Pathologist? __Yes __No If yes what did you work on?
18. Do you have problems when you're reading __sounding out words, and/or __finding answers to questions?
19. How often do you have to read something over again? __Never __Sometimes __Frequently __Always
20. Does rereading information help? __Yes __No
21. Can you usually tell others about what you have read? __Yes __No
22. How do you feel about reading aloud in class? __Like to, __It's okay, __Dislike
23. Do you enjoy reading? __Yes __No Do you prefer to read __fiction or __nonfiction?
24. Do you have problems when you're writing __finding topics, __getting started in writing, __writing enough, and/or __spelling?
25. Do you misspell words? __Never __Sometimes __Frequently __Always

Adapted from the following source:
See *Adolescents with language and learning needs: A shoulder-to-shoulder collaboration,* by S. Tattershall, 2007. Used with permission.

Worksheet for Language Characteristics

Student: _____ Date: _____

School: _____ SLP: _____

The purpose of this worksheet is to assist SLPs in considering the many aspects under each of the language categories. Check all the characteristics that apply after assessment and evaluation of student data.

	Yes	No
Auditory Skills:		
Auditory attention		
Auditory memory		
Auditory discrimination		
Form/Structure (Oral and Written):		
Grammar		
Morphology		
Sentence length		
Sentence complexity		
Variety of genres		
Cohesion		
Content/Semantics:		
Vocabulary		
Concepts		
Classification/Categorization		
Semantic relationships		
Comprehension of questions		
Following directions		
Understanding stories and text		
Word finding/Retrieval		
Semantic appropriateness		
Use/Pragmatics:		
Variety of verbal and nonverbal functions		
Discourse rules		
Prosodic features		
Uses context to shift registers		
Metalinguistics:		
Phonemic and phonological awareness		
Error awareness/Correction		
Figurative language		
Using language to think and problem solve		

Teacher Language Checklist

Student's Name: _____ Date:_____

Teacher: _____ Grade: _____

Language spoken at home/school:_____ / _____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.

Does your student have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

Receptive Language				
Able to follow verbal directions	N	S	F	A
Comprehends information (does he/she say "huh" or "what" frequently)	N	S	F	A
Attention span appropriate for age	N	S	F	A
Needs clarification and/or repetition of a direction(s)	N	S	F	A
Listening abilities appropriate for age	N	S	F	A
Answers questions appropriately (rather than repeating what has been said)	N	S	F	A
Comprehends/remembers verbal information provided in class	N	S	F	A
Remembers class routines	N	S	F	A
Expressive Language				
Participates in discussions	N	S	F	A
Uses complete thoughts when speaking	N	S	F	A
Uses correct sentence structure and grammar	N	S	F	A
Uses logical sequence of ideas to tell a story or relate events	N	S	F	A
Verbalizes in a fluent manner (does not get stuck on choice of words)	N	S	F	A
Uses age appropriate vocabulary	N	S	F	A
Verbal communication is understandable	N	S	F	A
Social Communication Skills				
Able to carry on a meaningful conversation with adults/peers	N	S	F	A
Begins, maintains and ends conversation appropriately	N	S	F	A
Makes relevant comments on the topic	N	S	F	A
Attends to speaker – maintains appropriate eye-contact	N	S	F	A
Understands humor, idioms and other figurative language	N	S	F	A

Other Possible Contributing Factors (Check if appropriate)

___ Social/emotional ___ Chronological age ___Health ___Mental age

Comments:

_____

Teacher Signature Date

Teacher Listening Comprehension Checklist

Student's Name: _____Date: _____

Teacher: _____ Grade:_____

Language spoken at home/school:_____ / _____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.

Does your child have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

Enjoys having stories read aloud	N	S	F	A
Has an attention span for verbal presentation adequate for age level	N	S	F	A
Attends to all of what is said rather than "tuning out" portions	N	S	F	A
Is able to ignore auditory distractions	N	S	F	A
Faces source of sound directly: does not often ask for things to be repeated	N	S	F	A
Responds after first presentation: does not often ask for things to be repeated	N	S	F	A
Understands materials presented through the auditory channel (lecture) as easily as those presented through the visual channel (written/drawn)	N	S	F	A
Responds to questions within expected time period	N	S	F	A
Follows two- or three-step directions	N	S	F	A
Demonstrates understanding (verbally or nonverbally) of the main idea of a verbal presentation	N	S	F	A
Comprehends who, what, when, where, why and how questions appropriate for age level	N	S	F	A
Demonstrates understanding of vocabulary appropriate for age level	N	S	F	A
Discriminates likenesses and differences in words (toad-told) and sounds (t-d)	N	S	F	A
Demonstrates understanding of temporal (before/after), position (above/below), and quantitative (more/several) concepts	N	S	F	A
Understands subtleties in word or sentence meaning (idioms, figurative language)	N	S	F	A
Interprets meaning from vocal intonation	N	S	F	A
Understands a variety of sentence structures (cause-effect passive voice: The ball was bounced by the girl.) and clauses (clause that modifies the subject: The dog that chased the cat was hit.)	N	S	F	A

Comments:

_____

Teacher Signature Date

Teacher Interview Checklist - Oral Expression

Student's Name: _____Date: _____

Teacher: _____ Grade:_____

Language spoken at home/school:_____ / _____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.

Does your child have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

States identifying information: name ( ), age ( ), birthday ( ), phone number ( ), and family information ( )	N	S	F	A
Uses correct grammatical structure for variety of purposes	N	S	F	A
a. formulates sentences correctly				
b. uses subject/verb appropriately				
c. uses verb tenses appropriately				
d. asks questions correctly: yes/no ( ) and "wh" questions ( )				
e. answers questions correctly: yes/no ( ) and "wh" questions ( )				
f. uses negation correctly				
g. uses pronouns correctly: demonstrative (e.g. this/that) ( ) reflexive (e.g. herself/myself) ( ). personal (e.g. I/me) ( )				
h. formulates plurals correctly: regular ( ) and irregular ( )				
Labels common objects correctly	N	S	F	A
Uses age appropriate vocabulary	N	S	F	A
Uses appropriate expressions for age level: location (e.g. above/below) ( ), temporal (e.g. before/after) ( ), and quantitative (e.g. more/several) ( )	N	S	F	A
Makes eye contact when speaking	N	S	F	A
Carries on a conversation with appropriate voice level	N	S	F	A
Knows how to begin, maintain, and end a conversation	N	S	F	A
Restates thoughts in alternative form	N	S	F	A
Tells stories or relates information in the proper sequence with beginning, middle, and/or end	N	S	F	A
Uses speech rather than gestures to express self	N	S	F	A
Speaks easily without seeming to be frustrated	N	S	F	A
Accounts for listener's shared background when formulating expression (e.g., uses pronouns and articles only with clear referents; gives enough information about the topic	N	S	F	A
Responds correctly to humor ( ), sarcasm ( ), and figures of speech ( )	N	S	F	A
Recognizes when to match voice level and intonation to a variety of situations	N	S	F	A
a. place (playground, classroom, assembly				
b. intent (question/answer in class, show emotions, give reports)				
	N	S	F	A

Comments:

_____

Teacher Signature Date

Teacher Checklist - Reading Comprehension

Student's Name: _____ Date: _____

Teacher: _____ Grade: _____

Language spoken at home/school: _____ / _____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.

Does your child have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

Orients book in proper position and turns pages left to right	N	S	F	A
Attempts to read, using retelling and remembering text	N	S	F	A
Recognizes common words in stories	N	S	F	A
Begins to use phonetic cueing system	N	S	F	A
Uses decoding skills	N	S	F	A
a. Uses common vowels and consonant sounds and patterns				
b. Applies rules of syllabication				
c. Demonstrates knowledge of prefixes, suffixes, and compound words				
d. Uses context clues				
Recognizes previously taught vocabulary in print (sight and reading vocab)	N	S	F	A
Comprehends simple sentence structure	N	S	F	A
Comprehends complex sentence structure	N	S	F	A
a. Understands passive voice (Mice were eaten by the cat)				
b. Understands relative clauses (the cake that Mac ate)				
c. Understands direct and indirect quotes within a passage				
d. Understands pronoun reference (he=Billy)				
Recognizes different uses of words, depending on context	N	S	F	A
a. Recognizes meanings of antonyms and synonyms				
b. Recognizes multiple meanings (fly: a fly, to fly)				
c. Understands figurative language (hold your horses)				
d. Differentiates homonyms (rode-road)				
Comprehends age- and/or grade appropriate passages	N	S	F	A
a. Summarizes a story or passage				
b. Identifies the main idea of a selection				
c. Identifies supporting details				
d. Compares and contrasts stories, characters, events, etc.				
Uses printed materials for a variety of purposes	N	S	F	A
a. Makes and confirms predictions				
b. Understands author's purpose				
c. Locates details and facts to answer questions and draw conclusions				
d. Uses printed material to gather information (for reports/personal interest, etc.				
e. Evaluates quality of material to meet a given purpose				
f. Reads for pleasure				
Comprehends material from a variety of sources (newspaper, magazine, content area text, trade books, reference materials)	N	S	F	A
Follows a sequence of written directions to complete a task (worksheet directions, recipes, directions for building a model)	N	S	F	A

_____

Teacher Signature Date

Teacher Checklist - Phonological Awareness Progression[1]

Student's Name: _____ Date: _____

Teacher: _____ Grade: _____

Language spoken at home/school: _____/ _____

Does this child demonstrate the ability to:

_____ respond to the rhythm/prosodic elements of nursery rhymes, songs, fingerplays etc., by imitating vocal patterns?

_____ use beginning temporal sequencing, pairing a phrase in a rhyme or song with a corresponding movement, picture, or object?

_____ visually follow pointing and auditory cues that track from top to bottom and left to right of a page?

_____ distinguish between pictures and written words in a book (e.g., "Show me the pictures. Now show me the words")?

_____ respond appropriately to beginning word games (e.g., "What does the cow say?")?

_____ recognize that some visual symbols stand for an entity (e.g., When this child sees the golden arches, does this child say "McDonald's")?

_____ understand that a word is separate from its meaning and what constitutes a "long" word versus a "short" word (e.g., *caterpillar* is long and *snake* is short)?

_____ demonstrate an understanding of the language of literacy: __top, __bottom, __same/not the same/different, __first or beginning, __last or ending, __before, __after?

_____ hear and see that portions of words are the same (e.g., thir*teen*, four*teen*, fif*teen*)?

_____ use rhymes where syllables are emphasized (e.g., Ee nie, mea nie, mi nie, mo…)?

_____ segment or count syllables in multsyllabic words?

_____ use top-to-bottom sequencing on a page?

_____ use left-to-right sequencing to sweep across lines in a text?

_____ point to individual words for reading, even though the words spoken may not be the correct ones?

_____ recognize his or her own written name?

_____ see his or her own first initial in other words?

_____ recognize other letters from his or her name in words that he or she sees?

_____ have sound-to-symbol correspondence for any alphabet letters? Which ones?_____

_____ think of a rhyming word for a word given by the teacher?

_____ segment a two-phoneme word into two parts (e.g., *sew* into /s/ and /ou/)?

_____ segment a three-phoneme word into three parts (e.g., *rope* into /r/, /ou/, /p/)

[1]Note. See "Facilitating development of preliterate children's phonological abilities," by R. Jenkins and L. Bowen, 1994, Topics in Language Disorders, 14, (2), p. 26-39. Copyright 1994. Reprinted with permission.

Teacher Checklist - At Risk Language-based Reading Disabilities[1]

Student's Name:_____ **Date:** _____

Teacher: _____ Grade: _____

Language spoken at home/school: _____ / _____

This checklist is designed to identify children who are at risk for language-based reading disabilities. It is intended for use with children at the end of kindergarten or beginning of first grade. Each of the descriptors listed below should be carefully considered and those that characterize the child's behavior/history should be checked. A child receiving a large number of checks should be referred for a more in-depth evaluation.

Speech Sound Awareness

____ Doesn't understand and enjoy rhymes
____ Doesn't easily recognize that words may begin with the same sound
____ Has difficulty counting the syllables in spoken words
____ Has problem clapping hands or tapping feet in rhythm with songs and/or rhymes
____ Demonstrates problems learning sound-letter correspondences

Word Retrieval

____ Has difficulty retrieving a specific word (e.g., calls a sheep a "goat" or says "you know, a woolly animal")
____ Shows poor memory for classmate's names
____ Speech is hesitant, filled with pauses or vocalizations (e.g., "um", "you know")
____ Frequently uses words lacking specificity (e.g., "stuff," "thing," "what you call it")
____ Has a problem remembering/retrieving verbal sequences (e.g., days of the week, alphabet)

Verbal Memory

____ Has difficulty remembering instructions or directions
____ Shows problems learning names of people or places
____ Has difficulty remembering the words to songs or poems
____ Has problems learning a second language

Speech Production/ Perception

____ Has problems saying common words with difficult sound patterns (e.g., animal, cinnamon, specific)
____ Mishears and subsequently mispronounces words or names
____ Confuses a similar sounding word with another word (e.g., saying "The Entire State Building is in New York")
____ Combines sound patterns of similar words (e.g., saying escavator" for escalator)
____ Shows frequent slips of the tongue (e.g., saying "brue blush" for blue brush)
____ Has difficulty with tongue twisters (e.g., She sells seashells by the seashore.)

Comprehension

____ Only responds to part of a multiple element request or instruction
____ Requests multiple repetitions of instructions/directions with little improvement in comprehension
____ Relies too much on context to understand what is said
____ Has difficulty understanding questions
____ Fails to understand age-appropriate stories
____ Has difficulty making inferences, predicting outcomes, drawing conclusions
____ Lacks understanding of spatial terms such as left-right, front-back

Expressive Language

____ Talks in short sentences
____ Makes errors in grammar (e.g., "he goed to the store" or "me want that")
____ Lacks variety in vocabulary (e.g., uses "good" to mean happy, kind, polite)
____ Has difficulty giving directions or explanations (e.g., may show multiple revisions or dead ends)
____ Relates stories or events in a disorganized or incomplete manner
____ May have much to say, but provides little specific detail
____ Rules of conversation difficulties (e.g., turn taking, staying on topic, indicating lack of understanding)

Other Important Factors

____ Has a prior history of problems in language comprehension and/or production
____ Has a family history of spoken or written language problems
____ Has limited exposure to literacy in the home
____ Lacks interest in books and shared reading activities
____ Does not engage readily in pretend play

Comments:

[1]Note. See "The early identification of language-based reading disabilities," by H.W. Catts, 2007, Language Speech and Hearing Services in the Schools, 28, p. 86-87.

Teacher Checklist Interview - Written Expression

Student's Name: _____Date: _____

Teacher: _____ Grade:_____

Language spoken at home/school:_____ / _____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.

Does your child have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

Follows left-to-right orientation	N	S	F	A
Copies materials correctly from board	N	S	F	A
Uses correct spacing for letters ( ) and words ( )	N	S	F	A
Writes fluently; is not slow and labored	N	S	F	A
Uses a variety of sentence structures	N	S	F	A
Recognizes own letter/numeral reversals	N	S	F	A
Uses correct spelling in daily work	N	S	F	A
Uses correct capitalization and punctuation in daily work	N	S	F	A
Uses correct grammar in written work	N	S	F	A
a. uses plurals correctly: regular ( ) and irregular ( )				
b. uses subject and verb appropriately				
c. expresses questions correctly: yes/no ( ) and "wh" questions ( )				
d. uses negation correctly				
e. uses pronouns correctly: personal ( ), demonstrative ( ), and reflexive ( )				
Uses writing to communicate information	N	S	F	A
a. provides reader with appropriate amount of information (detail, background, context)				
b. uses appropriate degree of familiarity (e.g. business vs. friendly letter)				
c. approaches written tasks in prescribed format, using appropriate conventions (e.g. fiction, informational, requesting, personal)				
Uses content skills appropriately	N	S	F	A
a. writes about a single event, experience, or point of view				
b. adds descriptive detail				
c. expresses original ideas, humor, and imagination				
Evidences overall organizational pattern in written composition	N	S	F	A
a. sequences events or points logically within paragraphs and/or composition				
b. reports a clear beginning, middle, and end				
c. uses topic statements and maintains topic				
d. uses age-appropriate vocabulary				
e. avoids fragments and run-on sentences				
f. presents details and facts to develop and support the main idea				
Uses effective writing process	N	S	F	A
a. pre-writing activities (e.g. topic choice)				
b. demonstrates use of drafting				
c. uses proofing skills (e.g. precise phrasing)				
d. uses editing/self-correction skills				
e. shares written work (e.g. peer editing)				

_____

Teacher Signature Date

Discourse Analysis[1]

After conversing with a student, use this form to make observations about their discourse.

Student's Name: _____ Date:_____ Birth Date/Age: _____ / ___

Teacher's Name:_____Grade: ____

Language Spoken at home/school: _____ /_____

Quantity

- Insufficient information _____
- Nonspecific vocabulary _____
- Need for repetition _____

Quality

- Message inaccuracy _____

Relation

- Poor topic maintenance _____
- Inappropriate response _____
- Failure to ask relevant questions _____
- Situational inappropriateness _____
- Inappropriate speech style _____

Manner

- Linguistic nonfluency _____
- Revision _____
- Delay before responding _____
- Failure to structure discourse _____
- Turn-taking difficulty _____
- Gaze inefficiency _____
- Inappropriate intonational contour _____

If numeric data is needed, the following analysis may help you to quantify your observations

- Total utterances _____
- Total discourse problem behaviors _____
- Total utterance with these behaviors _____
- Percentage of problem utterances _____

[1]Note. See *Clinical discourse analysis: A functional approach to language assessment*, by J.S. Damico, 1985. Reprinted with permission.

Developmental Milestones of Narrative Production Used for Macrostructure[1]

Developmental Age	Personal and Fictional Narratives	Narrative Level	Story Structure Level
About 2 years	Children embed narratives in adult-child conversations, with basic elements of narrative structure but no identifiable high point	Heaps and sequences, and centering	
About 3 years	Children can produce verbal descriptions of temporally organized general knowledge about routine events; children can independently report memories of past specific episodes with little support (i.e., questions and cues); no identifiable high point	Primitive narrative and unfocused chain	Descriptive and action sequences; more likely if retelling than generating a story
About 4 years	Children's narratives have no identifiable high point; 13% of personal narratives incorporate goal-directed episodes	Focused chains	Complete episodes in 16% of 4 year olds' stories; reactive sequences
About 5 years	42% of 5 year old children incorporate goal-directed episodes; 93% of stories by children 5 and older have a central focus or high point; children end narratives at the high point	True narratives	Earlier story structure levels still occur; some complete episodes may occur. In fictional stories, children include setting information and may attempt to develop a plot
About 6 years	After age 5 years, children build to a high point and resolve it in classic form.		Abbreviated episode
About 7-8 years	Children use codas to tie personal narratives together; children use introducers in elicited personal narratives	Narrative summaries	60% of 8 year olds' stories are complete episodes; stories include internal goals, motivations, and reactions that are largely absent in stories produced by younger children; some episodes will be incomplete; multiple episodes
Around 11 years (5th Grade)	Children tell coherent, goal-based, fictional stories, although reference to internal states is still rare; 10 ear olds may be limited in number of embedded or interactive episodes they can handle when retelling a story	Complex narratives	Complex episode, embedded episode, interactive episode
Around 13 years		Analysis and generalization	

*Note that information is based on narrative generation, not retelling unless specified.

[1]Note. See *Guide to Narrative Language: Procedures for Assessment*, by D. Hughes, L. McGilivray and M. Schmidek, 1997, p. 144.

Stages of Narrative Development[1]

1. **Heaps**
   - Text organization comes from whatever attracts attention
   - No story macrostructure
   - No relationship or organization among elements or individual microstructures

2. **Sequences**
   - Narrative has macrostructure with central character, setting, topic
   - Activities of central character occur in particular setting
   - Story elements are related to central macrostructure through concrete associative, or perceptual bonds
   - Superficial sequences in time
   - No transitions
   - May use format A does X, A does Y, A does Z; or A does X to N, A does X to O, A does X to P
   - No ending to narrative
   - Trip stories may be in this category if events lack logical sequence or trip theme

3. **Primitive Narratives**
   - Characters, objects, or events of narratives are put together because they are perceptually associated and complement each other
   - Elements of the narrative follow logically from attributes of the center
   - Attributes of the center are internal to the character, objects, events, and they determine the types of events that occur
   - May use inference in narrative
   - Narrative goes beyond perceptual and explicit information, but stays concrete, with links forged by shared situation rather than abstract relationship
   - May talk about feelings
   - Organized trip stories fall in this category if they include multiple comments on events, including interpretive feelings

4. **Unfocused Chains**
   - Events are linked logically (cause-effect relationship)
   - Elements are related to one another
   - No central theme or character, no plot or story theme
   - Lack of evidence of complete understanding of reciprocal nature of characters and events
   - True sequence of events

5. **Focused Chains**
   - Organized with both a center and a sequence
   - Actual chaining of events that connect the elements
   - Does not have a strong plot
   - Events do not build on attributes of characters
   - Characters and events of narratives seldom reach toward a goal
   - Weak ending, no ending, or end does not follow logically from the beginning
   - May be problems or motivating events that cause actions
   - Transitions are used
   - More because-then chains are used
   - May be a trip story if the events follow logically from each other more than just occurring next on the same trip

6. **True Narratives**
   - Integrate chaining events with complementary centering of the primitive narrative
   - A developed plot
   - Consequent events build out of prior events and also develop the central core
   - Ending reflects or is related to the issues or events presented in the beginning of the narrative
   - Intentions or goals of characters are dependent on attributes and feelings

[1]Note. See "Development of the concept of story in narratives written by older children", by N.W. Nelson and K. K. Friedman, Childhood Language Disorders in Context: Infancy Through Adolescence, p. 430. Reprinted with permission.

Conversational Effectiveness Profile[1]

Name: _____ **Date:** _____

Birth Date/Age: _____ / _____ Languages Spoken: _____

Rating Scale - For all responses, use the following behavioral rating scores:

1. Behavior is appropriate.
2. Behavior is somewhat inappropriate.
3. Behavior is extremely inappropriate.

SOCIAL INTERACTION

This section is designed to compare the individual's ability to interact with others as well as the style of interaction the individual frequently employs.

___ 1. Interaction with adults
___ 2. Interaction with age-appropriate peers
___ 3. Interaction with younger children
___ 4. Ability to interact with many individuals simultaneously
___ 5. Ability to establish multiple friendships
___ 6. Participation in group activities
___ 7. Passive tendencies
___ 8. Aggressive tendencies
___ 9. Responsiveness
___ 10. Ability to handle being 'left out'

SOCIAL COMMUNICATION

This section is designed to compare the individual's ability to communicate with others using nonverbal and verbal means.

Topic Maintenance

___ 11. Ability to establish a topic
___ 12. Ability to maintain topic relevancy
___ 13. Ability to change topic using signals
___ 14. Ability to verbally change topic
___ 15. Relevancy of information
___ 16. Ability to interrupt
___ 17. Ability to terminate the conversation

Conversational Structure

___ 18. Ability to initiate a conversation
___ 19. Ability to establish a conversation outside of interest area
___ 20. Ability to acknowledge others in conversation
___ 21. Ability to delete redundant information
___ 22. Ability to order information (new info follows old)
___ 23. Use of pedantic speech

Word Structure

___ 24. Ability to use generals/specifics
___ 25. Pronoun use
___ 26. Use of word referents
___ 27. Ability to employ Theory of Mind (presupposition)

Manner/Effectiveness

___ 28. Provides ambiguous information
___ 29. Provides relevant information
___ 30. Truthfulness of information (grandiosity)
___ 31. Ability to establish joint activity
___ 32. Tendency to present personal opinions as factual

Repair Structures

___ 33. Requests clarification as needed
___ 34. Provides additional information upon request
___ 35. Provides additional information upon request
___ 36. Requests repetition of information for clarification purposes

Functional Intent

A. *RESPONSIVENESS*

___ 37. Looks at speaker when called
___ 38. Delay of response
___ 39. Ability to label information
___ 40. Ability to describe objects
___ 41. Ability to describe events
___ 42. Ability to state facts
___ 43. Ability to provide clarification

B. *REQUESTING*

___ 44. Ability to request information
___ 45. Ability to request permission
___ 46. Ability to request yes-no responses
___ 47. Ability to use Wh-Questions
___ 48. Ability to request an action of another
___ 49. Ability to request clarification
___ 50. Ability to request attention
___ 51. Ability to request help

C. PROSODY

___ 52. Ability to use appropriate rate of speech
___ 53. Ability to use appropriate tone of voice
___ 54. Ability to use appropriate pitch
___ 55. Ability to use appropriate loudness
___ 56. Ability to comprehend implied meanings via tone of voice
___ 57. Ability to comprehend implied meaning via inflectional cues

D. *PROTESTS*

___ 58. Ability to state his opinion using appropriate means
___ 59. Ability to disagree

E. *STYLE OF CONVERSATION*

___ 60. Ability to shift the style of conversation according to person
___ 61. Ability to shift the style of conversation according to setting
___ 62. Ability to shift the style of conversation according to humor
___ 63. Ability to engage a listener
___ 64. Ability to use politeness
___ 65. Appropriateness to the situation
___ 66. Ability to recognize other's moods
___ 67. Ability to differentiate requests from demands

F. *HUMOR*

___ 68. Comprehends humor
___ 69. Uses humor

G. *GREETINGS/ACKNOWLEDGEMENTS*

___ 70. Provides greetings
___ 71. Uses greetings
___ 72. Ability to acknowledge the presence of another individual

H. *PROBLEM SOLVING*

___ 73. Ability to solve problems affecting himself
___ 74. Ability to solve problems affecting others
___ 75. Ability to recognize problems affecting himself
___ 76. Ability to recognize problems affecting himself
___ 77. Ability to establish cause-effect
78. Ability to use conflict-resolution

I. *Deceit*

___ 79. Uses language to deceive
___ 80. Lies

ACADEMIC COMMUNICATION

This section is designed to compare the individual's ability to communicate in an academic setting with other students.

___ 81. Ability to respond to teacher requests
___ 82. Ability to reorient to academic agenda
___ 83. Ability to obtain teacher's attention
___ 84. Ability to request clarification from teacher
___ 85. Ability to participate in classroom discussions
___ 86. Ability to interact with classroom peers
___ 87. Ability to paraphrase text
___ 88. Ability to summarize a story providing key information
___ 89. Ability to respond to questions requiring inferential reasoning

NONVERBAL COMMUNICATION

This section is designed to compare the individual's ability to communicate with others using nonverbal means.

___ 90. Ability to recognize 'personal space'
___ 91. Ability to touch
___ 92. Comprehends facial expression
___ 93. Comprehends eye gaze
___ 94. Comprehends gestures
___ 95. Comprehends body language
___ 96. Ability to use facial expression
___ 97. Ability to use eye gaze
___ 98. Ability to use gestures
___ 99. Ability to use body language
___ 100. Ability to use eye contact

PERSPECTIVE TAKING

This section is designed to compare the individual's ability to recognize and use appropriate perspective taking.

___ 101. Ability to recognize another's viewpoints
___ 102. Ability to recognize another's interests
___ 103. Ability to recognize another's feelings
___ 104. Ability to demonstrate concern for another's problems

SOCIAL-EMOTIONAL

This section is designed to compare the individual's ability to recognize emotional states and use appropriate terminology.

___ 105. Ability to recognize personal emotional states
___ 106. Ability to recognize emotional states in others
___ 107. Ability to express personal emotional state
___ 108. Ability to use appropriate self-control
___ 109. Ability to lose a game graciously
___ 110. Perfectionist quality
___ 111. Degree of anxiety in social settings

[1]Note. See *Assessing communication skills in Asperger's Syndrome: An introduction to the conversational effectiveness profile*, by T. P. Kowalski, Professional Communication Services Inc. Reprinted with permission.

The Pragmatic Protocol: Definitions and Examples[1]

Verbal Aspects

A. Speech acts

1. Speech act pair analysis: The ability to take on both speaker and listener role appropriate to the context. Types: Directive/compliance–personal need, imperative, permission, directive, question directive, and hints. Query/response-request for confirmation, requests for repetition, request for constituent repetition. Request/response-direct requests, inferred, for clarification, acknowledgment of request for action. Comment/acknowledgment-description of ongoing activities; of subsequent activity; of state or condition of objects or person; naming acknowledgments that are positive, negative, expletive or indicative. May be nonverbal as in the case of taking appropriate action to a direction or request.
2. Variety of speech acts: What one can do with language such as comment, assert, request, promise, etc. The partner shows both appropriate use of and diversity in the number of different speech acts he can accomplish,

B. Topic

3. Selection: Topic is appropriate to multidimensional aspects of context.
4. Introduction: Introduce a new topic in the discourse.
5. Maintenance: Coherent maintenance of topic.
6. Change: Change topic of discourse.

The speaker/listener is able to make relevant contributions to a topic, is able to make smooth changes in topic at appropriate times, is able to select appropriate topics for discussion given the context and participants and able to end discussion of a topic at an appropriate place in the discourse.

C. Turn taking

7. Initiation: Beginning a speech act.
8. Response: Reacting as a listener to a speech act.
9. Repair/revision: Ability to repair or ask for a repair when breakdown occurs.
10. Pause time: Pausing that is too short or too long between words.
11. Interruption/overlap: Interruption of conversation; two conversational partners speaking at once.
12. Feedback to listener: Verbal or nonverbal behavior giving listener feedback.
13. Adjacency: Utterances that occur immediately after the speaker's utterance.
14. Contingency: Utterances that share the same topic with a preceding utterance and add information to the prior communication act.
15. Quantity/conciseness: As informative as needed, but not too informative.

Behavior is judged in relationship to both speaker and listener in the dyad. Initiating conversation and responding to comments made by the speaker, asking for clarification when a portion of the message is misunderstood and revising one's own message to facilitate understanding, avoiding interrupting or talking before the other partner is finished, giving feedback to the speaker as a way of moving the conversation forward, appropriate length of pauses in the conversation to support timing relationships in the conversation, and making comments relevant and informative.

D. Lexical selection/use cross speech acts

16. Specificity/accuracy: The ability to be specific and make appropriate lexical choices to clearly convey information in the discourse.
17. Cohesion: Unity or connectedness of the text.
    Behavior is judged according to relatedness and unity in the discourse. One is able to follow the conversation, and the ideas are expressed in a logical and sequential way.

E. Stylistic variations: The ability to adjust speech style to the listener.

18. Varying of communicative style: Adaptations used by the speaker under various dyadic conditions (e.g., polite forms, different syntax, changes in vocal quality).

Paralinguistic aspects

F. Intelligibility and prosodics

19. Intelligibility: Extent to which the message is understood.
20. Vocal intensity: Loudness or softness.
21. Vocal quality: Resonance and laryngeal characteristics.
22. Prosody: Intonation and stress patterns, variations of pitch, loudness, & duration.
23. Fluency: Smoothness, consistency and rate.

Speech that is clear; not too loud or too soft; appropriate in quality and shows appropriate use of intonation, stress, and pitch to support the communicative/linguistic intention of the message.

Nonverbal aspects

G. Kinesics and proxemics

24. Physical proximity: The distance the speaker and listener are from each other.
25. Physical contacts: Number of times and placement of contacts between speaker and listener.
26. Body posture: Varying from a 90-degree angle toward the other person, slouching, leaning.
27. Foot/leg and hand/arm movements: Any movement of named parts.
28. Gestures: Any movement that support, complement or replace verbal behavior.
29. Facial expression: Positive, negative or neutral movements of the face.
30. Eye gaze: One looks directly at the other's face or a mutual gaze.

Use of nonverbal aspects of communication that demonstrate the level of affiliation between partners, aid in regulating discourse turns and may supplement or support linguistic aspects of the message.

[1]Note. See "A clinical appraisal of the pragmatic aspects of language," by C.A. Prutting and D. M. Kirchner, 1987, Journal of Speech and Hearing Disorders, 52, p, 105-119. Copyright 1987. Reprinted with permission.

Pragmatic Protocol[1]

The pragmatic protocol is completed after observing individuals, age 5 years and older, engaged in spontaneous unstructured conversation with a communicative partner for 15 minutes. At this time, each pragmatic aspect of language on the protocol is judged as appropriate, inappropriate or not observed. Detailed instructions are attached.

Please answer by circling A (Appropriate), I (Inappropriate), NOO (No Opportunity to Observe)

Communicative Acts	Judgment	Examples and Comments
Verbal Aspects		
A. Speech Acts		
1. Speech act pair analysis	**A I NOO**	
2. Variety of speech acts	**A I NOO**	
B. Topics		
3. Selection	**A I NOO**	
4. Introduction	**A I NOO**	
5. Maintenance	**A I NOO**	
6. Change	**A I NOO**	
C. Turn Taking		
7. Initiation	**A I NOO**	
8. Response	**A I NOO**	
9. Repair/revision	**A I NOO**	
10. Pause time	**A I NOO**	
11. Interruption/overlap	**A I NOO**	
12. Feedback to speakers	**A I NOO**	
13. Adjacency	**A I NOO**	
14. Contingency	**A I NOO**	
15. Quantity/conciseness	**A I NOO**	
D. Lexical selection/use across speech acts		
16. Specificity/accuracy	**A I NOO**	
17. Cohesion	**A I NOO**	
E. Stylistic variations		
18. The varying of communicative style	**A I NOO**	
Paralinguistic Aspect		
F. Intelligibility and prosodics		
19. Intelligibility	**A I NOO**	
20. Vocal intensity	**A I NOO**	
21. Vocal quality	**A I NOO**	
22. Prosody	**A I NOO**	
23. Fluency	**A I NOO**	
Nonverbal aspects		
G. Kinesics and proxemics		
24. Physical proximity	**A I NOO**	
25. Physical contacts	**A I NOO**	
26. Body posture	**A I NOO**	
27. Foot/leg and hand/arm movements	**A I NOO**	
28. Gestures	**A I NOO**	
29. Facial expression	**A I NOO**	
30. Eye gaze	**A I NOO**	

[1]Note. See "A clinical appraisal of the pragmatic aspects of language," by C.A. Prutting and D. M. Kirchner, 1987, Journal of Speech and Hearing Disorders, 52, p, 105-119. Copyright 1987. Reprinted with permission.

Language Development Tracking Sheets

The Language Development Tracking sheets may be helpful when profiling an individual student's language skill levels:

- Pre-K Language Development Tracking Sheet
- Elementary Age Language Development Tracking Sheet
- Adolescent Communicative Competency Tracking Sheets
- Sources

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
0-9 mo.	**Attending** phase is a pre-requisite for semantic dev.		**(Syntax does not develop until about age 1)**			
0-3 Mo.	**Startle response** to loud or unusual sound				Briefly **looks** at people	
	Mouthing of some objects				**Follows with eyes** a moving person	
	Moves eyes to source of sound				**Smiles/coos** in response to another (1-4)	
	Fixes gaze on spoon or bottle				**Excites** when caregiver approaches (1-4)	
	Briefly **holds & inspects** 2 objects				**Cries differently** when hungry, tired or in pain (1-4)	
					Aware of strangers & unfamiliar situations	
					Quiets to a familiar voice.	
					Responds to name by looking for source of voice	
3-6 Mo.	**Smiles** at sight of a face				Occasionally **vocalizes** in response to speech	
	Laughs when playing with some objects				**Pitch and intonation** vary	
	Self initiated **vocal play**- coos, gurgles, chuckles & laughs				Imitates **facial expressions**	
					Maintains **eye contact**	
					Comprehends parental **gestures**	
6-9 Mo.	**Looks at** some **objects**, pictures & family members **when named**				Stops behavior when told **"no"**	

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Interest in pictures maintained for a full minute when named				**Vocalizes** to another person & interrupts vocalizations	
	Searches for **partially hidden object** (emerging nomination)				**Imitates** familiar sounds and actions	
	Performs appropriate **actions on objects** (tears, shakes, slides, rubs etc.)				**Initiates vocalizing** to another person. Attempts to **imitate** gross **gestures**	
	Babbles (p, b, m, n, t, d, z)				Indicates **displeasure** when person or object is removed	
					Maintains attention to speaker	
					Waves in **response to bye-bye**	
9-12 Mo.	**Relates symbol & object** (first true word)				**Shouts or laughs** to attract attention	
	Will **give object** on request				**Shakes head "no"** & pushes undesired objects away	
	Understands and follows simple body action **commands**				Reaches to **request** object	
	Responds with searching movements to simple **questions**				Displays **fear of strangers**	
	Looks in correct place **for toys out of sight**				Participates in **social games** (pat-a-cake, peek-a-boo)	
	Can name or **look** for **object out of sight**				**Affectionate** to familiar people	
	Turns head immediately to own name				**Directs others** physically (pats, pushes, pulls, tugs)	
	Shows **awareness of more than one object**				**Extends arms** to be picked up	
	Recognizes **inverted object** (emerging:top/bottom/front/back)				Perceives other's **emotions**	

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Gestures/vocalizes to indicate wants/needs (Emerging: state recurrence, nomination				Varies **behavior according to response** of others - repeats actions laughed at	
	Says 2 words spontaneously & **"mama" / "dada"** meaningfully				Initiates wave to **"hi" and "bye-bye"**	
1-1/2 Yrs.	**Follows** simple 1 step **commands**		**50%** of all utterances are **nouns**		**Solicits attention** physically/ vocally ("Mommy")	
	Points to recognized & wanted objects (emerging nomination)		**Mean length of utterance** is 1 or 2 words		**Gestures** assistance (may give back toy to be wound)	
	Points to **1-3 body parts** on command				**Social ritual words** emerging (bye, hi, please, thank you)	
	Identifies 2 or more objects/ **pictures** from a group				Acknowledges another with **eye contact**, or vocal response	
	Uses 3-20 single **words. Understands** 50 **words.**				**Teases, scolds & warns** with gesture or vocalization	
	Says, "all gone" (**emerging negation**)				Uses **sentence-like intonation (jargon)**	
	Asks for more (**emerging recurrence**)				**Protests** by saying, "no", shaking head, moving away	
	Responds vocally to some **"wh" questions** ("What's this?")				Initiates **turn-taking** routines	
	Begins to claim certain objects (**emerging possession**)				Uses single words or phrases to express **intentions.**	
	Demonstrates **functional use** of objects					
11/2-2 Yrs.	**Comprehends** @ 300 words		**Follows directions** using 1 or 2 spatial concepts (in/on)		Gains **attention by asking questions** like "What's that?"	

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Listens to simple stories especially likes ones heard before		**Mean length of utterance** is 1.8 words (33% are nouns)		Uses single and 2 word phrases to **command**	
	Responds by shaking head to **yes/no questions**		**Negation** used in form of "no"		Much **verbal turn-taking**	
	Object permanence fully acquired		**Possessive** emerging (Daddy car)			
	Discriminates food from objects (will unwrap before eating)		Refers to **self with pronoun** and name (me Tommy)			
	Uses @ 50 recognizable words & **names** familiar objects.		By 2, **combines 2 words** into noun+ verb or noun + adjective phrase			
	Identifies & **names** 5 or more picture by 2					
	Says own name and refers to self by full name					
	Verbalizes immediate (not past) experiences					
	Combines at least **2 words into phrases** (uses 3-4 words by 2)				**2-3 Years** Engages in **short dialogues**	
2-21/2 Yrs.	**Comprehends** @ 500 words Uses 200 intelligible words		**Mean length of utterance** is 3.1 words (25% nouns & 25% verbs)		Verbally **introduces topic** and **changes topic** of discussion	
	Answers simple "where" and "what" **questions**		Present progressive **(ing)** added to verbs		Expresses **emotion**	
	Carries out 2 **related commands**		Regular **plural** forms emerging (cat > cats)		Begins using **language in imaginative** ways	
	Identifies **actions** in pictures		Uses the **prepositions** in/on correctly		Begins supplying details to improve **comprehension**	
	Acquires **basic concepts** "one" and "all"		Irregular **plurals** emerging (child > children)		(Uses **attention** getting words such as "hey")	

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Listens to 5-10 minute story		**Articles** "a" and the appear in sentences		Clarifies and requests; **clarification** emerging	
	Names six objects by **function** (use)		Asks **basic questions** (Mommy gone?)		**Pre-narrative devt.**. begins with group of unrelated ideas & sequences	
	Repeats 2 numbers correctly		Uses some **contractions** in memorized form (don't, can't, it's)			
	Answers some **"where" and "what"** questions		Uses at least 2 **pronouns** & understands 1st & 2nd person (you, I)			
			Combines 3-4 words into subject + verb + object format			
21/2-3 Yrs.	**Comprehends** @ 900 words Says 500 words		**Mean length of utterance** is 3.4 words (20%nouns & 25% verbs)		(same as above)	
	Points to 10 objects described by **use / function** (Show me what you eat with.)		Uses **pronouns** (I, me, you, mine,it) understands pronouns (he/she/they.we)			
	Knows **concepts/ opposites** big/little		Asks simple **"what/where"** questions			
	Matches **colors, shapes**		**Yes/no** questions emerging (Is he sleeping?)			
	Answers 6-7 (**agent/action questions** What runs?)		**Auxiliary is/am + ing** (dog is running)			
	Answers **who, why, where, how many** questions		**Regular past tense verbs** start to appear (walk > walked)			
	Knows own sex and the **difference** between		Emerging 's for **possession** (daddy's car)			
			Negation - "not" emerging			

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
			Contracted form of "is" emerging (He's running.)			
			Location adverbs emerging (here, there)			
			Emerging **future tense** (do, can and will)			
			Emerging **imperatives** (commands like "Go get it!")			
			Comparatives - Understands "est" adjective marker			
			Infinitive complement emerging ("I want to play")		**3-4 Years** Engages in **longer dialogues**	
3-31/2 Yrs.	**Comprehends** 1200 words and uses 800 words		**Mean length of utterance** = 4.3 words		Use of inference in stories emerging	
	Answers 2/3 **association** questions, "What goes with..."		Uses **pronouns** he, she, we, they		**Assumes the role of another** person in play	
	Follows **preposition** directions w/ under, inside, in front of and behind.		**Combines 4-5 word** sentences. Uses compound sentence w/ "and"		(Uses **fillers to acknow - ledge** partner's message -Ok, uh-huh etc.)	
	Asks some **"what", "who", "why"** & "how many" questions		**Contracted** forms of **modals** (can't, won't)		Begins **code switching** (uses simpler language) when talking to younger children	
	Responds to 2 **unrelated commands** ("Pick up your cup and turn off the TV.")		**Regular plural** forms are now consistent. Irregular plural forms are emerging.		**Requests permission**	
	Names 8-10 pictures		Use of **"is"** to begin **questions** emerging		Begins using language for **fantasies, jokes & teasing**	
	States **action**. Responds to commands involving 2 actions.		3rd person singular **present tense** emerging (He runs)		Makes **conversational repairs** if listener hasn't understood	

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Identifies **concepts/ opposites**: hard /soft, rough/smooth, circle/square		**Noun verb agreement** is emerging. (Uses "are" with plural nouns.)		**Corrects others**	
	Categorizes 2/3 by pointing when asked "Show me all the ….."		Uses consistent **regular past tense** forms (jump > jumped)		**Primitive narratives** emerge: events follow from central core	
	Able to **group objects** ("Show me the animals.") Able to **match sets.**					
	Can **supply last word** of the sentence ("The can is on the___")					
	Can **count** 3 objects, pointing to each.					
31/2-4 Yrs.	**Comprehends** 1,500- 2,000 words and **uses** 1,000 – 1,200 words		**Mean length of utterance** =4.4 Combines 4-5 word sentences.		Understands **turn taking**	
	Does simple verbal **analogies** (Sister is a girl, brother is a boy.)		**Possessive** marker ('s) is consistent		Varies **vocal loudness** intentionally	
	Responds to **commands involving 3 actions.**		Regular **third person singular verbs** are consistent (She jumps.)			
	Consistently gives use or **function** of common objects		Simple **regular past tense** is consistent			
	Recognizes 4 **colors** Names 1 color		Present **progressive (ing)** is consistent			
	Answers 13 **agent-action questions**		**Negation**: "not" used consistently Contractions are consistent			
	Tells 2 events in order of **sequence**		Consistent **pronouns:** she, he, I, ,you, me, mine. Emerging: Our, they, their & reflex. pron."myself"			
	Can tell a story mixing **real with unreal**		Yes/no **questions** with "Was…?", "Were…?" format are emerging			

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Has long **detailed** conversations		More **adverbs** of time and manner are being used			
	Appropriately **answers "What if..." questions**		**Complex sentences** used often. **Conjunction** "because" emerging.			
	Asks simple **"how", "when", "why"** questions &wants details.		**Parts of speech** are now in stable relationship.			
	Describes pictures & actions in pictures		Uses the **pronouns** I, you, me more accurately		**4-5 Years** Uses **indirect requests**	
4-41/2 Yrs.	**Understands** 2,000-2,500 words and **uses** 1,500 words.		**Mean length of utterance** = 4.6 words with 4-7 words in sentences.		Terms to express **emotions** used 3x more than a 3-year-old	
	Recognize & match 5-6 **colors** – names only 1-3 colors		**Deictic reference**: this, that, here, there used correctly.		**Narratives**: unfocused chains -stories have sequence but no central character of theme	
	Answers **"How far..."** questions, but not necessarily correctly.		**Causal conjunctions:** "If" and "so" emerging in sentences		**Asks for help** when needed	
	Answers 14 **agent – action questions**		**Irregular plurals** used fairly consistently		Offers to **help**	
	Defines 4 words in terms of their use **or function**		**Pronouns**: our, they and their used consistently		**Stands up** for their rights	
	Knows **spatial concepts / prepositions**: between, above, below, top, bottom, under.		**Modals**:"could" and "would" emerging in sentences.			
			Uses: "What do...does...did" **questions**			
			Irregular past tense are consistent			
			Mean length of utterance 5.7 words Combines 5-8 words in sentences.			

PRE-K LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
41/2-5 Yrs.	**Understands** 2,500-2,800 **words** and uses 2,000 words		**Noun/verb and adjective noun agreements** are emerging.		(Same as above, plus the following.)	
	Names 4-8 basic **colors**		**Reflexive pronouns** are becoming more consistent		**Cooperative play** begins.	
	Answers 2 complex comprehension **questions**		**Comparative** –er is emerging (bigger)		Tattles to gain **attention.**	
	Executes **3 commands** in sequence		**Complex sentences** are frequent. (We went to the park and played on the swings.)		Tells familiar **stories** without picture cues.	
	Knows **concepts / opposites**: heavy/light, loud/soft, like/unlike, long/short		Answers "What" and "Why" questions. Asks: "Why", "When" & "How" **questions.**			
	Classifies according to form, color or use- names the category		Understands **passive voice** sentences			
	Repeats 2 non-sense syllables . Can repeat a **6-7 word sentence.**					
	Answers simple when **questions** & 15 agent-action questions					
	Asks for **meanings** of words					
	Counts 10 objects					
	Identifies **missing object** from group of 3					
	Repeats days of week in **sequence**					
	Can **define** everyday words when asked, "What is a (fork)?"					
	Knows all important, visible **body parts**					

ELEMENTARY AGE LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
5-6 Yrs.	**Comprehends** 13,000 **words** (by age 6)		**Mean length of utterance** = 6.6 words		(Gives threats & insults)	
	Expressive vocabulary—2500 words (by age 6)		All **pronouns** used consistently		**Symbolic language** is emerging	
	Can answer: "What happens if..." **questions**		**Superlative** –est used (biggest)		May give **praise**	
	Knows **quantity concepts**: few/every, more/less, most/ least, some/many, several/few, before/after, half/whole, full/empty, pair, etc.		**Adverbial word endings** emerging (slowly, carefully, faster)		**Narratives** have focused chains-stories have logical sequence, but ending unclear.	
	Knows **spatial concepts**: right/left, across, far, top, away from, corner, row, center, below, wide/narrow, etc		Uses all **basic sentence structures**		**Comforts** friends in distress	
	Comprehends **directional commands** (Put your right hand on your right knee)				Understands & explains **rules** to others	
	Has **prepositions**: through, away, from, toward, over				Talks about **feelings**	
	Knows **temporal/ sequential concepts:** first/last, beginning, after, etc				Directly **asks, commands and forbids** (uses mostly direct requests, and Can I__?)	
	Differentiates **time concepts**: am/pm, yesteday/ tomorrow, now/later				Recognizes need to attract **attention** and does so appropriately	
	Names **days of the week** in order				Uses **interrogative forms** Shouldn't you? Should you?	
	Understands **"Opposite** of"				Repeats for **conversational repair**	

ELEMENTARY AGE LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Has **number concepts** to 10/ Counts 12 objects /Points to named # To 25/ rote counts to 30				Appropriately **invites others** to participate	
	Can shift **classification** (Can shift from shape to color etc.)				Issues **promises**	
	Repeats 4 digits correctly				**Retells story** from picture book with reasonable acc. w/ beginning, middle, end	
	Can name basic **colors**				Emerging **turn taking** in group and conversation	
	Knows **same (alike) and different**. States 1 similiarity and 1 difference between objects					
	Uses **adjectives** to describe people and places					
	Understands **derivational endings** for nouns (–er, -ist dancer, artist)					
	Defines words by responding to:, What is *? Or Tell me about*__					
	Verbalizes **causal relationships**					
	Sorts by **category**- animal, food, toys, clothing, vehicles, tools, appliances, furniture, etc.					
	Knows **function** of **body parts**					
	Knows **negation**, "n't"					
	Understands **questions**: How long? How often? When?					
	Names positions: **1st, 2nd, 3rd**					

ELEMENTARY AGE LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
6-7 Yrs.	**Comprehends** 20,000 to 26,000 **words**		**Mean length of utterance** = 7.3 words		True **narratives**-well developed plots, characters, sequenced w/clear endings	
	Roughly understands differences in **time intervals**		Is **aware of mistakes** in other's speech		(Accepts mild, friendly teasing w/ little agitation)	
	Understands **seasons** and what you do in each one.		Uses most **morphological markers** consistently		Waits for **turn** when playing in group	
	Sequences numerals 1-10, rote counts to100, sequences numbers 1 to 10		Causal **conjunctions** "If" and "so" developed by most children		**Accepts valid criticism** without crying, pouting etc.	
	(Grasps basic idea of addition & subtraction)		Reflexive **pronouns** developed by most children		Gains/holds adult **attention** in socially acceptable manner	
	States preceding and following **days of week** (and numbers)		Irregular **comparatives** mostly developed (good,better,best)		Uses **others as resource** for assistance or information	
	(Apt to pick up slang and mild profanity)		**Perfect tense** (have,had) emerging		Expresses **affection, hostility** and anger.	
	Second emergence of **question** stage (why)		**Nominalization** developing (Noun forms developed from verb forms).		**Directs and follows** peers	
	Recites alphabet **sequentially**. Sight reads 10 printed words.		**Irregular plurals** are improved		(Competes with peers in storytelling and boasts)	
	Tells time related to a specific daily **schedule**.		**Iteration** developing (You have to clean clothes to make them clean,)		**Expresses pride in self** and in accomplishments.	
	Understands and uses **neither/nor**		**Participial complements** emerging		Emerging **role play**	
	Knows **temporal / sequential concepts**: skip, separate, match, before, always, never		**Passive voice** developing in most children.		**Conversational repair** by elaborating detail in repetition	
	Knows **spatial concepts**: right/left, forward, backward		Knows **comparatives**- er (bigger)		Gives imperative **commands**	

ELEMENTARY AGE LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Knows **quantity concepts**: as many, zero, pair, second, third, medium sized		Uses "many" with **plural nouns** (many hats)		Beginning to respond to **indirect hints**	
	Knows adverbial **conjunctions** now, then, so, through					
7-8 years	**Receptive vocabulary**-26,000 words		**Exclamations** are emerging		**Requests** using "may" and "will"	
	Expressive vocabulary—3600-5469 words		Follows adult ordering of **adjectives**		Uses indirect **requests** (hints)	
	Knows common concrete **antonyms**: clean/dirty, wrong/right, day/night, alive/dead		**Imperatives** are emerging		Understands social rules for **requests** including code switching for adults/peers	
	Knows **temporal/sequential concepts**: since, in order				**Negative** forms of interrogatives-"please don't, you shouldn't"	
	Knows **quantitative concepts**: least, equal				**Requests** "please do, you should"	
	Uses **spatial concepts**: left/right; front/back				Uses which, why, and how **questions**	
	Knows **days of the week**				Uses **deictic reference**: this, that, these, those	
	Beginning to understand **cause/effect relationships**, because				Participates in **cooperative play**, and carries out simple projects	
					Emerging social awareness of **other's expectations**	
					Responds appropriately when **introduced to** strangers	
					Can **terminate conversation** appropriately	

ELEMENTARY AGE LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
					Appropriately **takes turn** in conversations	
8-10 years	Knows **months** of the year		Uses full **passives**		Provides additional input to listener for **conversational repair**	
	Emerging abstract **antonyms**: remember/forget; shallow/deep;				Repairs **conversational breakdown** by defining & providing context	
	Emerging **synonyms**				**Sustains** concrete **topics** through several turns	
	Emerging **multiple meanings**				Begins consideration for **others' topics**	
10-12 years	Comprehends **absurdities**		**Combines two sentences**		Emerging fictional **narratives** with sense of plot, definite character-generated solutions	
	Comprehends **idioms**		Emerging **conjunctions**: "if, though"		Emerging-- **sustained** abstract discussion and **topics**	
	Comprehends in and on used for **temporal relations**		Uses "**much**" with mass nouns		Refrains from comments that might **offend or hurt** others	
	Comprehends most **familial terms** & relationships		**Answers question** with a sentence		Gives complex **directions** to others	
	Can give standard & abstract **definitions**				Asks **time questions** using "What time" or "when....?"	
	Uses **multiple meaning words**				Gives **persuasive argument** with 2 supporting points and appropriate details	
	Names 2 **similarities** and 2 **differences** of given items				Appropriately **joins group** in conversations	

ELEMENTARY AGE LANGUAGE DEVELOPMENT TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Uses simple **similes & metaphors**				Appropriately **praises** and **encourages**	
	Names concrete **synonyms**					
	Knows abstract **antonyms**					
	Follows a **sequence** of ideas and information					
	States **main point** and supporting details accurately					

ADOLESCENT COMMUNICATIVE COMPETENCY TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
12-13 years	Comprehends **proverbs**		Knows **adverbial conjunctions** otherwise, anyway, therefore, however, really, probably		**Orders** own **meal** at restaurant	
	Comprehends **temporal relations**: at. . .		Comprehends: **unless**		Uses telephone for all kinds of calls without assistance	
	Uses basic and concrete **synonyms**		Comprehends **embedding** of all types		**Narratives:** Presents resolutions for problems	
	Follows a **sequence** of ideas and information/ sequence of directions		Uses **independent clauses** in embedded sentences		Uses complete **introduction** and specific (not extraneous) detail	
	Notes a speaker's **main point** and **supporting examples**		Given 5 words, make **sentence**		Uses **time and place** markers	
	Emerging distinction of **fact from opinion**		Combines 2 sentences to make one sentence with **conjuctions.**		Close **adherence** to story **grammar model**	
	Emerging **prediction of outcomes** of the talk		Uses **adverbial conjunctions**: otherwise, anyway, therefore, however, really, probably		**Conversation skills:** Sustains topic of conversation	
	Emerging drawing **conclusions** from the talk				Gives **support for point of view**	
	Emerging distinction between **relevant and irrelevant** materials				Emerging ---**modifies and clarifies message** upon listener request	
					Gains attention appropriately	
					Emerging detection of **speaker bias** and competency	
14-17 years	Uses abstract **synonyms and antonyms**		Uses clear **noun referents** (pronouns)		**Initiates conversation** on topics important to others	
	Uses flexible, **precise vocabulary**		Uses **complexity and variety of syntax**		Responds to **hints or indirect cues** in conversation	

ADOLESCENT COMMUNICATIVE COMPETENCY TRACKING SHEET

NAME:_____ **SCHOOL:** _____ **BIRTHDATE:**_____

AGE	SEMANTICS	DATE	SYNTAX/MORPHOLOGY	DATE	PRAGMATICS	DATE
	Uses **subordinators** to relate different ideas: otherwise, on the other hand, nevertheless, but if....		**Morphological rules mastered** (Including irregular grammatical forms)		Expresses questions, comments and responses in **organized** fashion	
	Sustains topic of conversation		Mastery of **tense reference** and **subject verb agreement**		Uses appropriate **social register** in differing situations	
	Finds **appropriate words** easily to express thoughts				Appropriately asks **questions** of adults	
	Uses **sarcasm, jokes, and double meanings**				Uses **tact**	
	Uses **metaphors**				**Modifies and clarifies** message as appropriate	
	Follows **sequence** of ideas and information				Uses comfortable **speech rate, volume, phrasing, intonation**	
	Notes details accurately				Uses **appropriate proximity** (distance)	
	Notes **transitional expressions**				Knows **partner's perspective** and knowledge differ from his own	
	Distinguishes between **relevant and irrelevant** materials				Responds to **hints or indirect cues** in conversation	
	Distinguishes **fact from opinion**				Notes possible **speaker bias** and competency	
	Recognizes a speaker's **inferences**				Notes **emotional appeals**	
	Predicts outcomes of the talk					
	Draws conclusions from the talk					
	Summarizes a **speaker's main points**					

SOURCES FOR LANGUAGE CHECKLISTS

Development Charts by Pro-Ed

Rosetti's Infant Toddler Language Scale

Pre-School Language Scale – 3 (PLS-3)

"Milestones in Child Development" by Barbara Bain et al

Brown's Stages

Language Development by Robert Owens

Language Assessment and Intervention for the Learning Disabled by Wiig and Semel

Clinical Evaluation of Language Fundamentals – 3 (CELF-3)

Oral and Written Language Scales (OWLS)

Total Language Competence – Expanded (TLC-E)

Conversations by Barbara Hoskins

The WORD Test

Language Processing Test (LPT)

Communication Skills and Classroom Success by Charlann Simon

USU Social Skills Program

Assessing Communication Skills in Asperger's Syndrome: An Introduction to the Conversational Effectiveness Profile

Timothy P. Kowalski
Professional Communication Services, Inc.

ABSTRACT: This paper is designed to provide educators with a greater knowledge of the communication deficits seen in Asperger's Syndrome. It describes the conversational strengths and weaknesses seen in this population and discusses a variety of pragmatic assessment tools currently available and offers a new instrument, the Conversational Effectiveness Profile, specifically designed to offer the diagnostician greater success in evaluating pragmatic effectiveness in individuals presenting with Asperger's Syndrome. No other instrument currently available provides as comprehensive an analysis of the communication abilities inherent in Asperger's Syndrome.

KEY WORDS: Asperger's Syndrome; pragmatics; conversation

Assessing Communication Skills in Asperger's Syndrome

Ever since the first published account of a group of children having social ineptitude, an insistence on sameness, nonverbal language deficiencies, alterations in affect and stereotyped behaviors (Asperger, 1944), professionals have been attempting to describe the unique traits with which these individuals present. The inclusion of Asperger's Syndrome as a distinct classification in both the Diagnostic and Statistical manual of Mental Disorders, Fourth Edition, Text Revised (American Psychiatric Association, 1994) and the Tenth Revision of the International Classification of Disease (World Health Organization, 1989) has provided professionals with further information regarding the clinical traits inherent in this population. Both the DSM-4 TR and the ICD-10 indicate the presence of impaired social interaction as a salient feature of Asperger's Syndrome. Nonverbal behavior, specifically eye-to-eye gaze, facial expression, and gestures are symptomatic of this disorder. The inability to develop age appropriate peer relationships and difficulties in social and emotional reciprocity are also clinical traits. Both classification systems indicate that no clinically significant delay in language is present, as individuals with Asperger's Syndrome typically possess a good command of oral language and are capable of conversing with others, albeit in a unique manner. The ICD-10 further specifically states that language onset should have single words by 2-years of age and phrases by 3-years of age however, current research is reporting the presence of possible delayed language onset (Bonus, 1997; Eisenmajer, 1998; Gillberg, 1989; Mayes, 2001).

Gillberg (1989) reported similarities among children who did not fit the classic Kanner description of autism. His set of criteria for the identification and diagnosis of Asperger's Syndrome offers more attention to the communication and language traits typified with this population. As with both the DSM-4 TR and ICD-10, his criteria also relate to social impairment and nonverbal communication problems. According to Gillberg, social deficits may evidence extreme egocentricity, specifically with respect to peer interaction, appreciation of social cues, and inappropriate social and emotional responses. Nonverbal communication problems are delineated by a limited use of gestures, clumsy body language, poor facial expression, and proximity difficulties. Unlike the DSM-IV TR and the ICD-10, Gillberg's criteria also define the speech and language peculiarities of Asperger's Syndrome individuals as possessing superficially perfect expressive language with impaired comprehension, especially for literal and implied meanings. Voice quality may possess an odd prosody and unlike the DSM-IV TR and the ICD-10, indicates delayed early language onset may also be present.

In many instances, individuals with Asperger's Syndrome present with unique communication skills that are difficult to describe. These deficits are best addressed by speech-language pathologists, individuals specifically trained to diagnose differences in both gross and subtle differences in the speech and language skills of individuals. The communication assessment should include an analysis of receptive and expressive language skills and describe the comprehension and use of nonverbal communication. Pragmatic language abilities should also be thoroughly assessed, as deficits in these skills present with the greatest area of communication

concern for the individual with Asperger's Syndrome. In addition to standardized instruments, the assessment should also include naturalistic observations, parent interviews, and extensive analysis of social-pragmatic skills.

A unique strength of the individual with Asperger's Syndrome is a strong command of rote vocabulary. As a result, standardized instruments for vocabulary assessment, such as the Peabody Picture Vocabulary Test (Dunn & Dunn, 1981), the Receptive One-Word Picture Vocabulary Test (Brownell, 2000), and the Expressive One-Word Picture Vocabulary Test - Revised (Gardner, 1990) often fail to elicit deficits. Likewise, standardized instruments that present a global assessment of language, such as the Clinical Evaluation of Language Fundamentals-3 (Semel, Wiig & Secord, 1995) and the Test of Language Development - Primary (Newcomer & Hammell, 1988) present a total language scale that often is skewed by the excellent rote memory skills seen in this population. Select subtests that assess higher level thought processing may be more sensitive to the language deficits evidenced in this population, however, many school districts do not allow for the reporting of select subtest scores. Furthermore, some instruments that indicate test validity is negatively affected when only select subtests are administered forcing the diagnostician to administer the entire test. Unfortunately, this only serves to negate the reasons for test administration in which global measures are used.

Social-pragmatic language assessment provides the greatest source of diagnostic information for this population. As with global language assessment tools, the Test of Pragmatic Language often is not sensitive enough to provide standardized scores reflecting the need for language intervention. Observation-based tools that describe pragmatic skills such as Fey's Pragmatic Patterns (Fey, 1986), Dore's Conversational Acts (Stickler, 1987), Tough's Functions of Language (Tough, 1977), Halliday's Functions of Language (Miller, 1981), the Pragmatic Rating Scale (Andersen-Wood & Smith, 2000), the Interaction Record (Andersen-Wood et al., 2000), the Prutting Pragmatic Protocol (Miller, 1981; Prutting, 1983), the Communication Partner Profile (Andersen-Wood et al., 2000), Muir's Informal Assessment for Social-Communication Skills (Muir, Tanner, & France, 1992), and The Social-Emotional Checklist (Kowalski, 2001) may provide for a greater degree of accurate assessment. Despite their lack of norm-referenced data, these instruments provide the diagnostician with greater insight into the unique strengths and weaknesses associated in this population. As with any non-standardized tool, the data yielded by these instruments should be interpreted with caution due to the subjective limitations inherent in observation-based instruments.

Speech-language pathologists are hampered in their ability to collect information on the communication skills demonstrated by individuals with Asperger's Syndrome. While each of the aforementioned instruments may be useful for evaluating the social-communication skills of individuals with Asperger's Syndrome, no instrument currently available is sensitive enough to describe the unique communicatively based social difficulties seen in this population. It is for this purpose why the Conversational Effectiveness Profile (Appendix 1) was developed. It provides the diagnostician with a comprehensive tool specifically designed for evaluating the social-communication skills of individuals with Asperger's Syndrome.

Fey's Pragmatic Patterns provides the diagnostician with a relatively simplistic method of viewing the conversational styles with which an individual may present. Four pragmatic patterns may be ascertained based on the individual's degree of responsiveness and assertiveness during the conversational process. These patterns reveal a description of the communication style and function of individuals and in addition, may also provide for a global starting point when determining treatment goals.

Dore's Conversational Acts (Chapman, 1982) is a non-standardized means in which to analyze the communicative function an utterance possesses. It assesses utterances based on form and use in discourse and reveals relative strengths and weaknesses in the conversational process. The diagnostician is afforded eight categories of conversational acts in which to descriptive the conversational process. These are the ability to request, the ability to respond to requests, the ability to provide descriptions, the ability to produce statements, the ability to acknowledge, the ability to use organizational devices, the ability to use performatives, and lastly, a miscellaneous category for describing utterances that are not easily categorized, specifically lack of responses, unintelligible responses, and those that are devoid of information.

Tough's Functions of Language emphasizes the role language plays in problem-solving and thinking. The diagnostician evaluates the effectiveness of communication through the following four pragmatic areas: directive, interpretive, projective, and relational. While this descriptive analysis of communication effectiveness is helpful when assessing individuals with Asperger's Syndrome, it is does not provide for a complete descriptive assessment of communication. As such, it should be not be used as the primary tool for descriptive analysis.

With Halliday's Functions of Language the diagnostician analyzes the development of communication skills based on complexity and appropriateness through an analysis of three components known as the interpersonal, textual, and ideational/experiential. Use of this tool as the primary diagnostic instrument limits the overall descriptive analysis of language. Like Tough's Functions of Language, it too, is limited in its overall descriptive capabilities when used in describing the communication effectiveness of individuals with Asperger's Syndrome.

The Pragmatic Rating Scale rates an individual's communication skills for use in comparing performance with other individuals. While not all the pragmatic skills it details are appropriate for individuals with Asperger's Syndrome, it does provide for another opportunity to describe an individual's pragmatic performance.

The Interaction Record is designed to analyze verbal and nonverbal communication with respect to the manner in

which an individual's participation contributes to the overall success or failure of the communication process. By detailing the individual's communication interaction, the diagnostician evaluates the relative strengths and weaknesses in interpersonal communicative interactions, an area known to present significant difficulty for individuals with Asperger's Syndrome.

The Prutting Pragmatic Protocol is designed to analyze a child's conversational intent in a social setting by analyzing the speech, nonverbal language, propositional acts, and illocutionary acts. It is unique among the various pragmatic tools in that it provides for a severity measure as determined through both a raw and weighted score. As such, it is a tool that provides for a more appropriate descriptive analysis of communication functions seen in individuals with Asperger's Syndrome.

The Communication Partner Profile describes the communication deficits seen in Asperger's Syndrome in that it provides an analysis of deficient pragmatic areas. It uses a simple checklist to describe the presence or absence of skills in the following areas: facilitating relationships, facilitating conversational interaction, facilitating communication development, and non-facilitative strategies. By detailing the behaviors exhibited, the diagnostician is afforded a means with which to determine specific skills that may require specialized instruction.

Muir's Informal Assessment for Social-Communication Skills offers a limited analysis of communication interaction. It does however, provide for a rapid overview of the communication process by rating ten major domains of social language. These include eye contact, posture, gestures and facial expressions, the ability to initiate a conversation, the ability to maintain a conversation, concentration, group awareness and participation, motivation, knowledge of subject matter, and the individual's degree of relaxation and anxiety. While it does offer the diagnostician another means of analyzing the social domain of language, it is not detailed enough to be used as the primary diagnostic instrument for communication assessment.

With the Social-Emotional Checklist, the diagnostician evaluates three social domains typically seen as challenging for individuals with Asperger's Syndrome. These are the social-interactive domain, the social-communicative domain, and the social-emotional domain. Diagnosticians indicate the presence of specific behaviors by checking the appropriate section and elaborating with examples or additional comments as warranted. The use of this instrument is helpful in facilitating the selection of appropriate treatment goals.

Recognizing the limits of the aforementioned instruments currently available to diagnosticians for use in assessing the conversational skills of individuals with Asperger's Syndrome, the Conversational Effectiveness Profile is a new instrument, specifically developed to assess the unique communication skills of individuals with Asperger's Syndrome. No other instrument currently available provides as comprehensive an analysis of the communication abilities inherent in Asperger's Syndrome. It is comprised of six domains, the Social Interaction domain, the Social Communication domain, the Academic Communication domain, the Nonverbal Communication domain, the Perspective Taking domain, and the Social-Emotional domain. Using a three-point scale as (1) appropriate, (2) somewhat appropriate, or (3) extremely inappropriate, the diagnostician can rate the individual's conversational effectiveness, both as a speaker and as a listener.

The benefits afforded to the diagnostician are many. Specifically designed for Asperger's Syndrome, it is the only instrument available that details all aspects in which Asperger's Syndrome may affect the communication process. In addition, it affords the diagnostician an opportunity to describe in varying detail those areas of communication found to be outside the generally accepted norm. By using a three-point descriptive process it affords the diagnostician a rapid means to describe the overall strengths and weakness of the individual.

The Social Interaction domain profiles the child's ability to interact with other individuals, be they peers, younger children, or adults. It also allows for a description of the style of interaction frequently employed by the individual. The Social Communication domain is designed to compare the individual's ability to communicate with others using either verbal or nonverbal means. It allows for an assessment of topic maintenance, conversational structure, word structure, manner/effectiveness, repair structures, and functional intent. The latter section is further described in terms of the individual's responsiveness, the ability to use and respond to requests, recognition and use of prosodic features, ability to protest, style of conversation, comprehension and use of humor, comprehension and use of greetings, problem solving, and use of deceit. The Academic Communication domain is designed to rate the individual's communication skills typically seen within an academic setting. It provides for an analysis of the child's communication effectiveness in opportunities requiring greater structure and rule-conformity. The Nonverbal Communication domain profiles the individual's ability to recognize and use non-verbal communication. These may be related to personal space, as well as the ability to comprehend and use eye gaze, gestures, body language and facial expression.The Perspective Taking domain allows for a profile of an extremely difficult area for individuals with Asperger's Syndrome. It details the individual's ability to recognize another person's viewpoint, interest, and feelings, as well as the ability to demonstrate concern for another person's problems. The Social-Emotional Domain profiles the individual's ability to recognize emotional states in himself and in others and use appropriate terminology to describe such states. It also provides for a reporting on the relative degree of anxiety seen in this population. Through the use of the Conversational Effectiveness Profile, an appropriate description of the individual's strengths and weaknesses will be detailed. This should aid the diagnostic process.

All the instruments previously discussed, including the Conversational Effectiveness Profile, are not standardized and lack norm referenced data. As a result, the data obtained through these instruments must be interpreted with caution. Further research in the field of pragmatic analysis may even-

tually yield a tool that offers standardized data. However, until then, the diagnostician is limited to describing the communication skills using criteria referenced measures.

No matter which instrument is used, the astute diagnostician will not rely on procedures employed for a typical language assessment. Rather, the primary source for the diagnostic process should use opportunities showcasing the child's ability to spontaneously interact with his/her peers. Non-structured naturalistic events, such as recess, P.E., and lunch, will undoubtedly showcase the child in an entirely different manner than that seen when seated at a table opposite the diagnostician. It is these situations, in which the child with Asperger's Syndrome has the greatest degree of difficulty. He may be found attempting to dominate the conversation and rigidly scripting roles for his playmates. His inability to employ age appropriate social interactive skills may be demonstrated by episodes of egocentric activity and an uncanny inability to use perspective taking. He may fail to understand jokes and may inadvertently behave inappropriately in an attempt to establish friendships. His language may display pedantic speech in that he appears to lecture to his friends rather than engage in active communication. His inability to turn-take and terminate the conversation may further distinguish him as being "unusual." Likewise his use of suprasegmentals, such as pitch, rhythm, tone, and melody, may strike the listener as atypical and further alienate him from the social norm. He may perseverate on questions or he may monopolize the conversation. Deficits in abstract reasoning and nonverbal communication skills, such as facial expression and body language, create further areas of difficulty. He may be extremely literal or fail to recognize facial features commonly used during the communication process. It is these areas of communication that typically identify the child with Asperger's Syndrome.

Children with Asperger's Syndrome often are saddled with a host of labels prior to receiving the diagnosis of Asperger's Syndrome. They often present with signs and symptoms of oppositional defiance, attention deficit, learning disability, and/or an emotional handicap/behavior disorder (Kowalski 2001). The astute speech-language diagnostician will recognize the child's attempt at, and desire for, establishing social interaction. The diagnostician will recognize the limited social-interactive, social-communicative, and social-emotional skills employed by the child that identify him as unusual and he will describe these as they relate to his age-appropriate peers. The Conversational Effectiveness Profile was developed with this need in mind. By more effectively delineating those areas where the conversational effectiveness is deficient, the child with Asperger's Syndrome has a better chance of receiving the appropriate service delivery designed to address and improve his unique areas of deficiency.

References

American Psychiatric Association. (1994). 1994 Diagnostic and Statistical Manual of Mental Disorders. Washington, D.C.: Author.

Andersen-Wood, L. & Smith, B. (2000). Working with Pragmatics. Oxon, UK: Winslow Press Ltd.

Asperger, H. (1944). Die 'autistischen psychopathen' im kindersalter. Archiv fur Psychiatric und Nervenkrankheiten, 117, 76-136.

Bonus, B., Assion, H., & Deister, A. (1997). Coincidence of epilepsy and Asperger Syndrome. Case report and review. Nervenarzt, 68(9), 759-764.

Brownell, R., (Ed.). (2000). Receptive One-Word Picture Vocabulary Test. Novato, CA: Academic Therapy Publications.

Chapman, R. (1982). Exploring Children's Communicative Intents. In J. F. Miller (Ed.), Assessing Language Production in Children: Experimental Procedures. Baltimore: University Park Press.

Dunn, L. & Dunn, L. (1981). Peabody Picture Vocabulary Test - Revised. Circle Pines, MN: American Guidance Service.

Eisenmajer, R., Prior, M., Leekam, S., Wing, L., Ong, B., Gould, J., & Welham, M. (1998). Delayed language onset as a predictor of clinical symptoms in pervasive developmental disorders. Journal of Autism and Developmental Disorders, 28(6), 527-533.

Fey, M. E. (1986). Language Intervention with Young Children. San Diego, CA: College-Hill Press.

Gardner, M. (1990). Expressive One-Word Picture Vocabulary Test. Novato, CA: Academic Therapy Publications.

Gillberg, I. C. & Gillberg, C. (1989). Asperger Syndrome-some epidemiological considerations: a research note. Journal of the American Academy of Child Psychiatry, 30(4), 631-638.

Kowalski, T. (2001). The Source for Asperger's Syndrome. East Moline, IL: LinguiSystems, Inc.

Mayes, S. D. & Calhoun, S. L. (2001). Non-significance of early speech delay in children with autism and normal intelligence and implications for DSM-IV Asperger's disorder. Autism: The International Journal of Research and Practice, 5(1), 81-94.

Miller, J. (1981). Assessing Language Production in Children. Baltimore, MD: University Park Press.

Muir, N., Tanner, P., & France, J. (1992). Management and Treatment Techniques: A Practical Approach. In R. Gavell & J. France (Eds.), Speech and Communication Problems in Psychiatry. San Diego, CA: Singular Publishing Group, Inc.

Newcomer, P. & Hammell, D. (1988). Test of Language Development-Primary, 2nd Edition. Austin, TX: Pro-Ed.\

Prutting, C. A. (1983). Applied Pragmatics. In T. M. Gallagher & C. A. Prutting (Eds.), Pragmatic Assessment and Intervention Issues in Language. San Diego, CA: College-Hill.

Semel, E., Wiig, E., & Secord, W. (1995). Clinical Evaluation of Language Fundamentals-3. San Antonio, TX: The Psychological Corporation.

Stickler, K. (1987). Guide to Analysis of Language Transcripts. Eau Claire, WI: Thinking Publications.

Tough, J. (1977). The Development of Meaning. New York: Halstead Press.

World Health Organization [WHO]. (1989). Tenth Revision of the International Classification of Disease. Geneva: Author.

Appendix

Conversational Effectiveness Profile

Name: _____
Birth Date: _____
C.A.: _____

Note: For all responses, use the following behavioral rating score:

1. Behavior is appropriate.
2. Behavior is somewhat inappropriate.
3. Behavior is extremely inappropriate.

Social Interaction

This section is designed to compare the individual's ability to interact with others as well as the style of interaction the individual frequently employs.

1. Interaction with adults _____
2. Interaction with age-appropriate peers _____
3. Interaction with younger children _____
4. Ability to interact with many individuals simultaneously _____
5. Ability to establish multiple friendships _____
6. Participation in group activities _____
7. Passive tendencies _____
8. Aggressive tendencies _____
9. Responsiveness _____
10. Ability to handle being "left out" _____

Social Communication

This section is designed to compare the individual's ability to communicate with others using non-verbal and verbal means.

Topic Maintenance

11. Ability to establish a topic _____
12. Ability to maintain topic relevancy _____
13. Ability to change a topic using signals _____
14. Ability to change a topic using verbal means _____
15. Relevancy of information _____
16. Ability to interrupt appropriately _____
17. Ability to terminate the conversation _____

Conversational Structure

18. Ability to initiate a conversation _____
19. Ability to establish a conversation outside of interest area _____
20. Ability to acknowledge others in conversation _____
21. Ability to delete redundant information appropriately _____
22. Ability to order information appropriately (new info follows old) _____
23. Use of pedantic speech _____

Word Structure

24. Ability to use generals/specifics _____
25. Pronoun use _____
26. Use of word referents _____
27. Ability to employ Theory of Mind (presupposition) _____

Manner/Effectiveness

28. Provides ambiguous information _____
29. Provides relevant information _____
30. Truthfulness of information (grandiosity) _____
31. Ability to establish joint activity _____
32. Tendency to present personal opinions as factual _____

Repair Structures

33. Requests clarification as needed _____
34. Spontaneously provides additional information _____
35. Provides additional information upon request _____
36. Requests repetition of information for clarification purposes _____

Functional Intent

A. Responsiveness

37. Looks at speaker when called _____
38. Delay of response _____
39. Ability to label information appropriately _____
40. Ability to describe objects appropriately _____
41. Ability to describe events appropriately _____
42. Ability to state facts appropriately _____
43. Ability to provide clarification appropriately _____

B. Requesting

44. Ability to request information appropriately _____
45. Ability to request permission appropriately _____
46. Ability to request yes-no responses appropriately _____
47. Ability to use Wh-Questions appropriately _____
48. Ability to request an action of another appropriately _____
49. Ability to request clarification appropriately _____
50. Ability to request attention appropriately _____
51. Ability to request help appropriately _____

C. Prosody

52. Ability to use appropriate rate of speech _____
53. Ability to use appropriate tone of voice _____
54. Ability to use appropriate pitch _____
55. Ability to use appropriate loudness _____
56. Ability to comprehend implied meanings via tone of voice _____
57. Ability to comprehend implied meanings via inflectional cues _____

D. Protests

58. Ability to state his opinion using appropriate means _____
59. Ability to disagree _____

E. Style of Conversation

60. Ability to shift the style of conversation according to person _____
61. Ability to shift the style of conversation according to the setting _____
62. Ability to shift the style of conversation according to humor _____
63. Ability to engage a listener appropriately _____
64. Ability to use politeness _____
65. Appropriateness to the situation _____
66. Ability to recognize other's moods _____
67. Ability to differentiate requests from demands _____

F. Humor

68. Comprehends humor _____
69. Uses humor appropriately _____

G. Greetings/Acknowledgements

70. Provides greetings _____
71. Uses greetings _____
72. Ability to acknowledge the presence of another individual _____

H. Problem Solving

73. Ability to solve problems affecting himself _____
74. Ability to solve problems affecting others _____
75. Ability to recognize problems affecting others _____
76. Ability to recognize problems affecting himself _____
77. Ability to establish cause-effect _____
78. Ability to use conflict-resolution _____

I. Deceit

79. Uses language to deceive _____
80. Lies _____

Academic Communication

This section is designed to compare the individual's ability to communicate in an academic setting with other students.

81. Ability to respond appropriately to teacher requests _____
82. Ability to reorient to academic agenda appropriately _____
83. Ability to obtain teacher's attention appropriately _____
84. Ability to request clarification from teacher _____
85. Ability to participate in classroom discussions _____
86. Ability to interact with classroom peers _____
87. Ability to paraphrase text _____
88. Ability to summarize a story providing key information _____
89. Ability to respond to questions requiring inferential reasoning _____

Nonverbal Communication

This section is designed to compare the individual's ability to communicate with others using non-verbal means.

90. Ability to recognize "personal space" boundaries _____
91. Ability to touch appropriately _____
92. Comprehends facial expression _____
93. Comprehends eye gaze _____
94. Comprehends gestures _____
95. Comprehends body language _____
96. Ability to use facial expression _____
97. Ability to use eye gaze _____
98. Ability to use gestures _____
99. Ability to use body language _____
100. Ability to use eye contact _____

Perspective Taking

This section is designed to compare the individual's ability to recognize and use appropriate perspective taking.

101. Ability to recognize another's viewpoints _____
102. Ability to recognize another's interests _____
103. Ability to recognize another's feelings _____
104. Ability to demonstrate concern for another's problems _____

Social-Emotional

This section is designed to compare the individual's ability to recognize emotional states and use appropriate terminology.

105. Ability to recognize personal emotional states _____
106. Ability to recognize emotional states in others _____
107. Ability to express personal emotional state _____
108. Ability to use appropriate self-control _____
109. Ability to lose a game graciously _____
110. Perfectionist quality _____
111. Degree of anxiety in social settings _____

Journal of Speech and Hearing Disorders, Volume 52, 105–119, May 1987

A CLINICAL APPRAISAL OF THE PRAGMATIC ASPECTS OF LANGUAGE

CAROL A. PRUTTING
University of California, Santa Barbara

DIANE M. KIRCHNER
Private practice, San Francisco, CA

A descriptive taxonomy, the pragmatic protocol, was developed for this study. The protocol consists of 30 pragmatic parameters of language. The purpose of the study was to test the utility of the tool to evaluate a range of pragmatic aspects of language in a sample of conversational speech from subjects in six groups. Among the disordered subjects, four distinct profiles emerged that separated the diagnostic groups. Individual differences in the way pragmatic deficits were distributed within a diagnostic category were also identified. The authors stress that the assessment of pragmatics should encompass a range of parameters that includes aspects of linguistic structure as well as those aspects of communication that have to do with principles governing language use. We offer our data as an early look at the way in which pragmatic deficits stratify across disordered populations.

In a recent book dealing exclusively with the pragmatics of language, Levinson (1983) devoted 53 pages to defining the topic. In his seminal work the author writes, "Here we come to the heart of the definitional problem: The term pragmatics covers both context-dependent aspects of language structure and principles of language usage and understanding that have nothing or little to do with linguistic structure" (p. 9). Pragmatics are concerned with the relationship between linguistic knowledge and the principles governing language use. Pragmatics must, therefore, account for two divergent aspects of communicative competence: those aligned with structure and those that operate apart from the structural properties of utterances. The term pragmatics has clear meaning and as Levinson says,

> In one sense there is no problem of definition at all: Just as, traditionally, syntax is taken to be the study of the combinatorial properties of words and their parts, and semantics to be the study of meaning, so pragmatics is the study of language usage. Such a definition is just as good (and bad) as the parallel definitions of the sister terms, but it will hardly suffice to indicate what the practitioners of pragmatics actually do; to find that out, as in any discipline, one must go and take a look. (p. 6)

Levinson believes that "the most promising definitions are those which equate pragmatics with 'meaning minus semantics' or with a theory of language understanding that takes context into account, in order to complement the contribution that semantics makes to meaning" (p. 32).

To understand how the field of speech and language pathology has dealt with the pragmatic aspects of language, both the theoretical paradigms for viewing pragmatics and the way the pragmatic aspects of communication have been organized for clinical purposes will be reviewed.

Paradigm for Conceptualizing Pragmatic Aspects of Language

There is a consensus within our discipline on one issue with regard to the pragmatic aspects of language. That is, these aspects should be assessed in language-disordered populations. What has yet to be agreed upon is a paradigm from which to view pragmatics. Some have envisioned a pragmatics-as-separate model where language use is described as a separate component from syntax and semantics (Bloom & Lahey, 1978; Chomsky, 1957, 1965). Although Bloom and Lahey acknowledged the interaction among syntax, semantics, and pragmatics, Chomsky emphasized a syntactic component that is more autonomous from aspects of meaning and use. A second position has been proposed by Bates (1976, 1979). She proposes a pragmatics-as-perspective model in relationship to other components of the system. From this framework, the pragmatic aspects of language actually serve as a source of functional constraints on various outcomes at other levels of the system. Finally, while denying neither of the above, a third position emerges that is the pragmatics-as-cause-effect point of view. In the case of this study the concern is for the communicative effects of various linguistic and cognitive deficits on interaction. The central notion was discussed by Charles Peirce more than a century ago (Peirce, 1878). He believed that our conception of something was our understanding of its effects. This is our viewpoint, and it is central to the position of this paper.

In the meantime, there have been a few attempts to organize the pragmatic aspects of language for clinical application (Curtiss, Kempler, & Yamada, 1981; McTear, 1985; Penn, 1983; Prinz & Weiner, in press; Prutting & Kirchner, 1983; Roth & Spekman, 1984). Curtiss et al. (1981) suggested a conversational analysis that includes 16 categories representing discourse functions. Prutting

0022-4677/87/5202-0105$01.00/0

designed a protocol in 1982 that was published in 1983 (Prutting & Kirchner, 1983). The protocol proposed the use of a speech act theory as a means of organizing pragmatic parameters and offered the following breakdown: utterance acts, propositional acts, illocutionary and perlocutionary acts.

Penn (1983) developed a profile of communicative appropriateness that takes the following pragmatic parameters into account: nonverbal communication, sociolinguistic sensitivity, fluency, cohesion, control of semantic content, and responsiveness to the interlocutor. She examined 40 parameters grouped under these five broad categories for clinical purposes. Roth and Spekman (1984) advocated the following breakdown for analyzing pragmatic abilities: communicative intentions, presuppositions, and the social organization of discourse. McTear (1985) separated the pragmatic aspects of language into an interactional component and a transactional component. The interactional component accounts for turn-taking acts and exchange structure, whereas the transactional component is used to denote the propositional content of discourse such as relevance, cohesion, and coherence. All of the above approaches evaluate the parameters within a conversational setting and/or clinician-constructed tasks. Prinz and Weiner (in press) have developed a pragmatic screening test that employs standardized tasks to elicit specific pragmatic abilities. The following parameters are assessed using this tool: speech acts, presuppositions, conversational interaction, and nonverbal signals.

The problem with all of these approaches has to do with the boundaries that are drawn between intentionality and the necessary presuppositions, propositional knowledge, and social rules of discourse needed to carry out the intentions. In fact, we originally classified the pragmatic parameters according to a speech act model (Austin, 1962; Searle, 1969). In other words, each parameter was classified as belonging to the utterance act, propositional act, or illocutionary/perlocutionary act. However, we have since abandoned the discrete classification of parameters under one of these three speech act categories and have recognized the lack of boundaries that distinctly separate propositional knowledge from, say, illocutionary function.

When describing the components of the speech act framework, Searle (1969) writes,

> I am not saying of course, that these are separate things that speakers do, as it happens, simultaneously as one might smoke, read, and scratch one's head, but rather that in performing illocutionary acts, one characteristically performs propositional acts and utterance acts. (p. 24)

He sees the components within the speech act theory as follows: "Utterance acts stand to propositional and illocutionary acts in the same way in which making an 'X' on a ballot paper stands for voting" (p. 24). We concur with Searle in the final conclusion of his book, *Speech Acts: An Essay in the Philosophy of Language:*

> For speaking a language—as has been the main theme of this book—consists of performing speech acts according to the rules, and there is no separating those speech acts from the commitments which form the essential parts of them. (p. 198)

Both semantic theory, as mentioned earlier in Levinson's (1983) work, and speech act theory (Austin, 1962; Searle, 1969) can be used as paradigms from which to help us understand pragmatics because intentionality and meaning are at the heart of language use. For an evaluative comparison of the proposed conceptual frameworks for pragmatics, see Parret (1983).

In the absence of an agreed-upon paradigm, there is a need to determine what the pragmatic aspects of language are and how these aspects should be organized for clinical and research purposes. We appear to be in a period of fact-gathering that consists primarily of empirical work undertaken to articulate a paradigm. Obviously, it will be possible to work with more direction in this area of language when theorists and researchers reach a consensus on a pradigm that helps us to conceptualize the communicative system. The debate is by no means over.

Despite the current status of this area of interest, the need for a pragmatic perspective for clinical purposes has been widely asserted for some time now. In one of the first articles written by Rees (1978) in the area of pragmatics, she stated,

> The possibilities, then for effective application of the pragmatic approach to studying and remediating clinical populations seem almost limitless. Without a doubt the future will bring a wealth of studies and reports on this subject that will advance clinical knowledge and skills for training the use of language in context. (p. 263)

Some years later, most of us still believe in the potential of a pragmatic approach to the study of language-disordered populations. However, to date there is no documentation of how language-disordered populations fare when assessed on a range of pragmatic abilities. As a result, we have little understanding of the way in which pragmatic deficits stratify across disordered populations. The purpose of this paper is to test the utility of a descriptive taxonomy, the pragmatic protocol, to evaluate a range of pragmatic parameters in a sample of conversational speech from six diagnostic groups.

METHOD

Subjects

The subjects for this study were 157 children and adults comprising six different diagnostic groups. These groups were as follows: 42 children with language disorders, 42 children with articulation disorders, 42 children developing language normally, 11 adults following a left hemisphere cerebrovascular accident (CVA), 10 adults following a right hemisphere CVA, and 10 adults with normal language. Subject selection criteria will be presented for each group separately.

The subject criteria for children with language and articulation disorders were based on those established by

the California State Department of Education Title 5, Section 3030. In addition, the children with language and articulation disorders demonstrated performance IQs of 85 or better on standardized psychometric evaluations such as the Wechsler Intelligence Scale for Children—Revised (Wechsler, 1972), the Stanford-Binet (Terman & Merrill, 1973), and the Leiter International Performance Scale (Arthur, 1952). These children were free of mental retardation, emotional disturbance, and clinically identifiable neurologic impairments. The diagnosis of speech or language disorder could not be attributed to cultural differences or hearing loss. Subjects were English speakers from monolingual homes, and each child passed a hearing screening no longer than 6 months prior to the time of the study.

To be considered language disordered, children in the present study performed at least 1.5 standard deviations below the mean or at the 7th percentile on standard measures of language comprehension and production. At least two standardized tests were used to determine a language disorder in one or more of the following areas: morphology, snytax, and semantics. Tests were selected from those most appropriate for the child's age or developmental level. The standardized tests of language comprehension administered to the children with language disorders included but were not limited to the following: the receptive portion of the Northwestern Syntax Screening Test (Lee, 1969), the Receptive subtests of the Clinical Evaluation of Language Function (Semel & Wiig, 1980), the Auditory Reception and Auditory Association subtests of the Illinois Test of Psycholinguistic Abilities (Kirk, McCarthy, & Kirk, 1968), and the Peabody Picture Vocabulary Test—R (Dunn & Dunn, 1981). Expressive language measures included but were not limited to the following: the expressive portion of the Northwestern Syntax Screening Test; Expressive subtests from the Clinical Evaluation of Language Function; the Grammatic Closure subtest of the Illinois Test of Psycholinguistic Abilities; and a spontaneous language sample analyzed for length, complexity, and diversity of syntactic structures.

Of the 42 children with language disorders (mean age = 8:2 years, range = 7:1–10:0 years), 36 were enrolled in classrooms for the communicatively handicapped within their respective school districts. The remaining 6 children were attending regular classroom programs and were receiving itinerant language services.

The children with articulation disorders were classified as such if they displayed reduced intelligibility or an inability to use the speech mechanism in a way that significantly interfered with communication and attracted attention. In this case, diagnosis of articulation disorder was made when production of multiple speech sounds on a standardized scale of articulation adequacy was below that expected for the child's chronological age or developmental level. The standardized tests administered included but were not limited to the following: The Goldman-Fristoe Test of Articulation (Goldman & Fristoe, 1972), The Fisher-Logemann Test of Articulation (Fisher & Logemann, 1971), and analysis of a connected speech sample using the Natural Process Analysis (Shriberg & Kwiatkowski, 1980). All of the 42 children with phonologic disorders were enrolled in speech intervention programs at the time of the study. The mean age for this group was 8:5 years and the range was 7:3–9:9 years of age.

According to school records and parental report, children in the normally developing group (mean age = 8:1 years, range = 7:0 to 9:2 years) had no history of speech or language deficits, were judged to be of normal intellectual potential, had normal hearing, and were placed in regular classroom settings at the time of the study. Children in the normal group were English speakers from monolingual homes as well. Sex was evenly distributed across all three groups of children with 21 females and 21 males in each.

The remaining 31 subjects comprised three diagnostic categories: 11 adults following left hemisphere CVA, 10 adults following right hemisphere CVA, and 10 normal adults. The subject selection criteria for the 21 brain-injured adults were as follows: diagnosis by a neurologist of left or right hemisphere CVA (obtained from medical records), neurologic stability (a minimum of 3 months postonset), and the absence of concomitant diagnoses such as dementia or psychiatric disturbance. All adult subjects were native English speakers (determined by interviews with family members), and all subjects had normal hearing (as indicated in the patient medical record). The subjects with left and right hemisphere damage were receiving treatment at the time of the study.

Of the 11 left hemisphere-damaged adults (mean age = 61 years, range = 51–70 years), 6 had been diagnosed as having fluent aphasia, and 5 had been diagnosed as having nonfluent aphasia. For the fluent subjects (Subjects 1–6) the mean score on the Western Aphasia Battery (Kertez, 1982), aphasia quotient, was 74.9 with a range of 49.4–96.2. On the Communicative Abilities in Daily Living (Holland, 1980) the mean score was 81.2 with a range of 52.9–97.7. There were 3 men and 3 women among the fluent subjects.

For the nonfluent subjects (Subjects 7–11) in the left hemisphere-damaged group the mean score on the Western Aphasia Battery, aphasia quotient, was 66.0 with a range of 40.3–90.3. On the Communicative Abilities in Daily Living, this group's average score was 113.6 with a range of 72.0–133.0. There were 4 men and 1 woman among the left hemisphere-damaged nonfluent subjects.

In the group of 10 right hemisphere-damaged adults (mean age = 64, range = 48–74) the mean score on the Western Aphasia Battery was 98.5 with a range of 92.6–100. The mean score for the group on the Communicative Abilities in Daily Living was 123.5 with a range of 72–136. Subjects were evenly distributed on the basis of sex with 5 men and 5 women in this diagnostic category.

The last group consisted of 10 adults with normal language (mean age = 62, range = 57–69) distributed evenly on the basis of sex (5 women, 5 men). According to each subject's history, there was no evidence of neurologic disorder; psychiatric disorder; speech, language, and hearing problems; or bilingual differences. The adults in all three groups had completed a minimum of 13 years of school, and all were considered literate.

The Pragmatic Protocol

The pragmatic protocol, developed by Prutting (1982), was designed to provide an overall communicative index for school-age children, adolescents, and adults. The protocol consists of 30 pragmatic aspects of language. These parameters were extrapolated from the developmental child language literature as well as the adult literature. It was particularly important for us to design a tool that would represent a range of diverse aspects discussed in the literature. We have adhered to Levinson's (1983) treatise that the range of pragmatic aspects exists on a continuum and includes both context-dependent aspects of language structure (e.g., cohesion) as well as aspects that rely on principles of language usage that are relatively independent of language structure (e.g., physical proximity, eye gaze). We have purposely mixed levels of analysis within the protocol (form and function) in order to explicate the pragmatic effects of deficits across various levels of performance.

As mentioned the protocol was designed to represent a range of parameters under observation. In addition to inclusiveness or broadness of scope the following properties were taken into consideration in constructing the protocol: homogeneity—all parameters represent a logical relationship to communicative competence and to each other, mutually exclusiveness—all items refer to one unique dimension of communicative competence and can be classified into only one category, and usefulness—each parameter serves a function in relation to the purpose of the study. Fox (1969), as reported by Brandt (1972), suggested the desirability of these four properties in the development of taxonomies. Each aspect was included under one of the following categories: verbal, paralinguistic, nonverbal.

The protocol used in this study along with the definitions of each parameter and examples are presented in the Appendix. It is important that judgments of appropriate or inappropriate be made relative to the subject, partner, and other aspects of the context that are known. For instance, a 5-year-old child is able to be cohesive but perhaps in fewer ways or using a more restricted number of syntactic forms than an adult. When using this protocol, judgments must be made taking both chronology and context into account. The tool is designed to be used only with children 5 years of age or older. The developmental literature suggests that by age 5 children show some form (possibly not fully developed) of all 30 parameters evaluated by the pragmatic protocol.

The pragmatic protocol should be completed after observing individuals engaged in spontaneous, unstructured conversation with a communicative partner. It is recommended that clinicians observe 15 min of conversation on-line or from a videotaped sample. After the clinician has observed the interaction, the protocol may be completed. At this time each pragmatic aspect of language on the protocol is judged as appropriate, inappropriate, or not observed. The following guidelines are used:

Appropriate: Parameters are marked appropriate if they are judged to facilitate the communicative interaction or are neutral.

Inappropriate: Parameters are marked inappropriate if they are judged to detract from the communicative exchange and penalize the individual.

No opportunity to observe: If the evaluator does not have sufficient information to judge the behavior as appropriate or inappropriate, the clinician marks this column. Aspects marked in this column are reassessed during additional samples of conversational interaction until the evaluator is able to judge them as either appropriate or inappropriate.

Rationale for Categorical Judgments

Pragmatic theory has long been concerned with the assignment of appropriateness conditions for every set of contexts, in much the same manner that semantic theory has concentrated on truth conditions to well formed formulae. This viewpoint has been supported by philosophers (Austin, 1962; Grice, 1975; Searle, 1969) as well as linguists (Allwood, Andersson, & Dahl, 1977; Lyons, 1977; Van Dijk, 1976). Both of our first two categories imply that one has some notion of normal practice and can, therefore, make accurate judgments about conforming to, and the violation of, these practices given a very careful consideration of the context in which the communicative interaction takes place. The third category, no opportunity to observe, was added because a few of the pragmatic aspects (e.g., stylistic variations) occur infrequently. It should be noted, however, that the majority of the pragmatic aspects on the protocol are continuous throughout discourse and can easily be judged within a 15-min segment of conversation.

There are several points to keep in mind while judging the pragmatic aspects as appropriate or inappropriate. One must understand the sociolinguistic background of the subject, as is the case with any analysis of language, in order to assign the current judgment. We are not attempting to treat people as culturally homogeneous. The literature from which these parameters were extracted documents their development in English, and the definitions provided are designed to be used with English-speaking children from monolingual homes. Second, we recommend that the relationship between the communicative partners be positive or neutral. The assumption in this type of relationship is that both partners expect to engage in cooperative discourse (Grice, 1975). It is important to note that one may operate in an outlandish or exaggerated manner, be disinterested, be ironic, and so forth and thereby exploit communicative conventions but, nevertheless, be judged appropriate given the goals of the relationship and situation at hand. As Levinson (1983) mentions, one can be grossly inappropriate and yet be supremely appropriate. Lastly, speakers and listeners may conform to the prevailing mores of a particular attitude or subculture in a number of ways. It is important to realize that built into the definitions of appropriate and inappropriate is tremendous variability in terms of the manner in which one adheres to or violates these conventions. What we are asking is, does a particular parameter fall too far from the normal curve to be appropriate to the context and in some way interfere with the relationship?

We opted for a two-point yes/no judgment rather than using a scaled procedure. The rationale was that in observing the entire 15-min segment, if there was one instance in which the subject was judged inappropriate and it appeared to penalize the interaction, we would mark the aspect inappropriate even though all other attempts were judged appropriate. We are making a judgment over the episode for each parameter. It is along these lines that we have moved to judging the effects of certain parameters on communicative interactions. For instance, in one of our training tapes a client came into the room and proceeded to lie down on the couch. In this context, this act was very inappropriate and caused great alarm to the partner even though they had a familiar relationship. Therefore, even though it occurred only once, the effect was so dramatic that physical proximity and body posture were marked inappropriate. On the other hand, the protocol works in the opposite way. One would not make a judgment of inappropriate for one parameter if the aspect is utilized incorrectly but does not seem to penalize the interaction. An aphasic patient, for example, was clinically dysfluent because of word-finding problems. However, his compensatory strategies were so good that he used interjections to hold his place in the conversation and keep the listener's interest. Consequently, he was not judged inappropriate on aspects of turn taking. In this case, there was clinical evidence (on standardized measures) of a deficit that did not make a noticeable difference in the client's ability to make smooth transitions at turn boundaries in the conversation. If also, for example, a subject misses an opportunity to revise a statement even though one was called for, this one instance would not necessarily be judged inappropriate if it did not penalize the interaction. Although we do not take frequency into consideration, we judge the parameter within the conversational episode observed. In other words, our judgment here is along a societal rating for clinical purposes. A parameter is marked inappropriate not because it is different but because the difference makes a difference in the interaction. We will demonstrate that these judgments can be made reliably.

Pretraining

The first author pretrained the clinician-investigators who collected the data for this study in the use of the protocol. Pretraining procedures included familiarization, discussion, and clarification of the definitions of each of the pragmatic categories to be evaluated. In addition, each investigator was trained to make judgments of appropriate, inappropriate, or no opportunity to observe. Pretraining was accomplished using videotapes of children with speech and language disorders as well as adults with right and left hemisphere brain injury and developmentally delayed adults. It was necessary to utilize a variety of disordered populations across age levels because different questions arose depending on the particular linguistic and cognitive deficits exhibited by the clients. Approximately 8–10 hr of training was required for this research project. For pretraining, point-by-point reliability was calculated for both appropriate and inappropriate judgments using the following formula:

$$\frac{\text{agreements}}{\text{agreements} + \text{disagreements}} \times 100.$$

Reliability was always above 90% for judgments of appropriate and inappropriate thus meeting adequate pretraining criterion.

Observational Procedure

To collect the data for this study, each of the 157 subjects was observed while engaged in 15 min of spontaneous conversation with a familiar partner. The children with articulation and language disorders were observed on-line with either the speech-language pathologist or their teacher; the normal children were observed with their classroom teacher. For all three groups of children, observations were carried out in the school setting. All of the adults were engaged in interactions with family members, friends, or the speech-language pathologist. Observation sessions with the adult subjects were videotaped. At the end of the observation period, the protocol was completed for each subject.

Reliability

Interobserver reliability data were obtained for 25% of the total subjects (40/157) with at least 6 subjects drawn from each of the six diagnostic groups. During the reliability sessions the investigator and a clinician-investigator observed the conversational interaction. The protocol was completed independently by each investigator at the end of each observational period. Point-by-point reliability was calculated for each of the 30 parameters separately for the appropriate and inappropriate categories. The following formula was used:

$$\frac{\text{agreements}}{\text{agreements} + \text{disagreements}} \times 100.$$

Reliability for the groups of children with articulation and language disorders was calculated and ranged between 93%–100% with a mean of 94.4% for judgments of appropriate and 92.3% for judgments of inappropriate. For the left and right hemisphere-damaged adults reliability agreements ranged from 90.9% to 100%. Average reliability for judgments of appropriate was 95.6%; 93.1% agreement was seen for judgments of inappropriate. Reliability for both normal groups (children and adults) was 100% for both judgments of appropriate and inappropriate categories.

RESULTS

Two levels of descriptive analyses were performed on the data addressing both qualitative and quantitative

TABLE 1. Mean (*M*), standard deviation (*SD*), range of appropriate pragmatic aspects of language, and rank order of most frequent inappropriate pragmatic aspects per group expresssed in percentages.

Group	*M*	SD	*Range*	*Rank order of inappropriate aspects*
Normal children ($N = 42$)	99	3	83–100	
Normal adults ($N = 10$)	99	1	97–100	
Children with articulation disorders ($N = 42$)	96	8	60–100	Intelligibility (21%) Vocal quality (10%) Vocal intensity (10%) Fluency (7%) Facial expression (7%) Pause time (7%)
Children with language disorders ($N = 42$)	88	10	60–100	Specificity-Accuracy (71%) Cohesion (55%) Repair/Revision (40%) Quantity-Conciseness (38%) Intelligibility (21%)
Adults with left hemisphere damage ($N = 11$)	82	9	63–93	Specificity-Accuracy (100%) Quantity-Conciseness (82%) Pause time (64%) Variety of speech acts (45%) Fluency (45%)
Adults with right hemisphere damage ($N = 10$)	84	13	60–100	Eye gaze (60%) Prosody (50%) Contingency (50%) Adjacency (50%) Quantity-Conciseness (50%)

aspects of the profiles for each subject group. These analyses included: (a) across-group comparisons of the mean percentage of appropriate pragmatic parameters and (b) within-group measures that addressed the profiles of deficits in each diagnostic category. Specifically, this was the rank order of the five pragmatic parameters most frequently marked inappropriate as well as individual subject data that reflected profiles of performance across all 30 communicative parameters. (For children with articulation disorders, 6 parameters are listed because of ties in ranking.)

The mean percentage of appropriate pragmatic parameters and the standard deviations were computed separately for each group. These results are presented by group in Table 1.

Normal Groups

As expected, the normal subjects that served as controls for both child and adult groups showed few inappropriate pragmatic behaviors (less than 1% on the average). There was little variability within either of the two normal groups as indicated by the small standard deviations in both cases. The individual subject data for these two groups are presented in Figures 1 and 2. The normal subjects were included in the study to determine whether or not the protocol is an index sensitive to differences between normal and disordered communicators on a broad set of communicative parameters. However, the groups were not included for the purpose of making direct comparisons to normal functioning. Therefore, analysis from this point on will be confined to the four remaining diagnostic categories.

Disordered Groups

With respect to the disordered populations, the results for the subjects with articulation and language disorders are presented first. These group data are also summarized in Table 1, whereas individual subject profiles are presented in Figures 3 and 4. The mean percentage of appropriate pragmatic parameters was 96% and 88%, respectively. There was greater variability in these subject populations compared to that for the normals as indicated by the higher standard deviations. Children with articulation disorders were found to be deficient on a cluster of dimensions that primarily relate to issues of speech production affecting the clarity of the message expressed: intelligibility, fluency, voice quality, vocal intensity, pause time, and one nonverbal parameter—facial expression. (See rank-order data in Table 1.) This was not an unexpected finding considering the diagnosis of articulation disorder. However, the extent to which such errors are judged to affect communicative competence is variable within the population. Even though all children in the study were being treated for articulation disorders, a much smaller proportion of those (9/42) exhibited disorders severe enough to interfere with a perceived level of communicative competence.

The mean percentage of appropriate pragmatic behaviors for the children with language disorders was somewhat lower than for the children with articulation disorders. Rank-order data (Table 1) show the cluster of pragmatic parameters that was identified for this group of subjects. The parameters that appeared to interfere with communicative competence were by and large the product of linguistic deficits related to the semantic and syntactic aspects of expressive language. These children exhibited a cluster of pragmatic deficits related to the specificity and accuracy of the message, the cohesiveness of expression, the ability to revise and clarify messages, intelligibility, and the quantity and conciseness of messages.

The group and rank-order data for the two adult disordered groups are also presented in Table 1; individual subject profiles are presented in Figures 5 and 6. The adult subjects with a left hemisphere CVA show a mean of 82% pragmatic parameters judged appropriate. Like the children with language disorders, this group of subjects produced a profile of deficits that were related to linguistic constraints including specificity and accuracy of expression, pause time in turn taking, quantity and

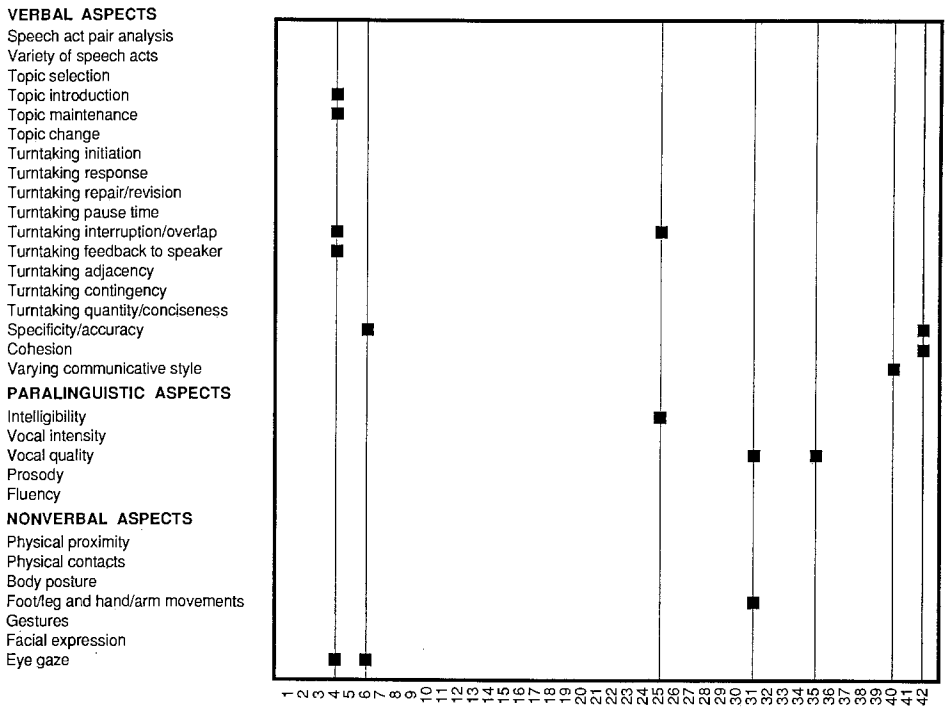


FIGURE 1. Pragmatic parameters marked inappropriate for the 42 children in the normal group.

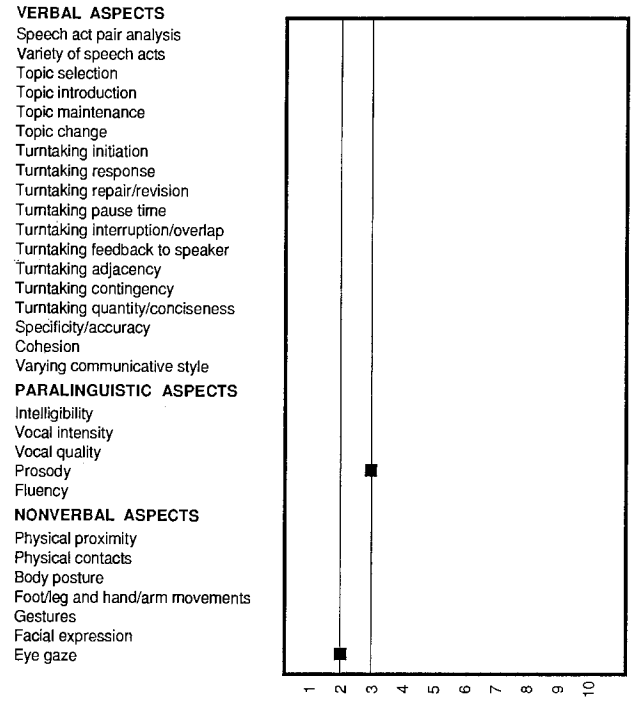


FIGURE 2. Pragmatic parameters marked inappropriate for the 10 adults in the normal group.

conciseness of the message, fluency, and the variety of speech acts produced.

In quite dramatic contrast, the subjects with lesions in the right hemisphere presented a different profile altogether. The mean percentage of appropriate pragmatic parameters was 84%, which is similar to that of the group with left hemisphere lesions. The difference lies in the cluster of parameters identified as most frequently judged inappropriate (see Table 1). They included eye gaze, prosody, adjacency, contingency, and quantity and conciseness. Although quantity and conciseness and contingency are affected by linguistic ability, the problems of prosody and eye gaze make a major contribution to the perceived problem of affect, which has been well documented for patients in this diagnostic category (e.g., Meyers, 1986; Ross & Masulam, 1979).

The results of this study show differences in the way in which pragmatic deficits stratify across four diagnostic groups of subjects with speech and language disorders. The significance of these results and the benefits of applying a procedure that evaluates a range of pragmatic parameters in disordered populations are presented in the next section.

DISCUSSION

The purpose of this study was to evaluate the utility of a descriptive taxonomy that can be used to identify the range of pragmatic deficits in individuals from four clinical populations. In the present investigation children with articulation disorders, children with language disorders, adults with left hemisphere lesions, and adults with right hemisphere lesions served as subjects. The results of the study were presented in terms of the pattern tendencies that characterized the responses of the subjects in each diagnostic category. The results will be discussed in terms of the value of the tool for clinical application.

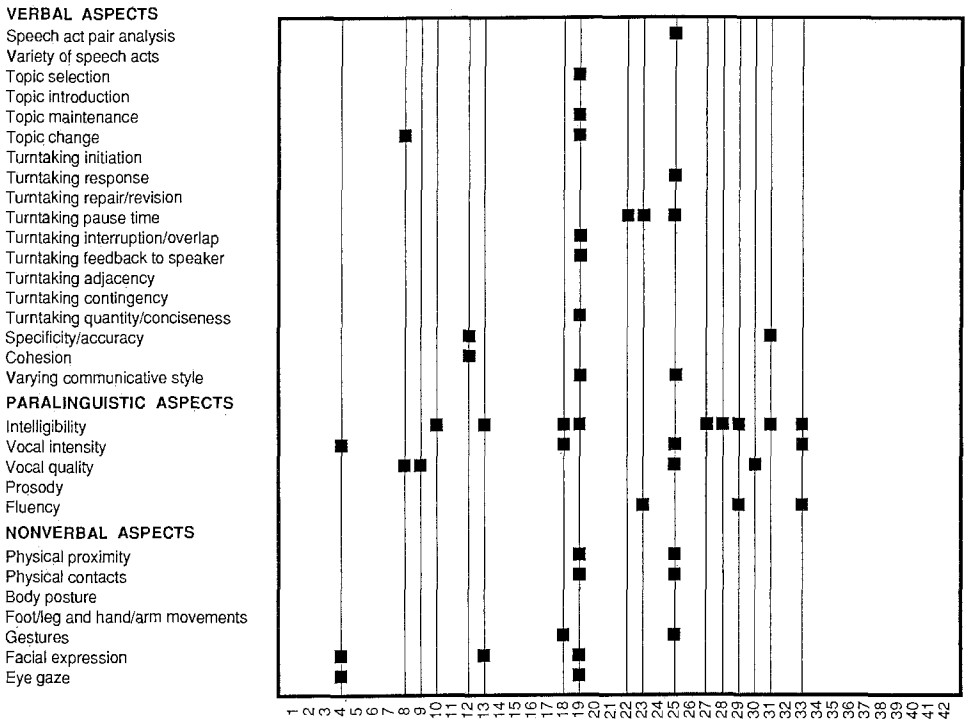


FIGURE 3. Pragmatic parameters marked inappropriate for the 42 children in the articulation-disordered group.

The findings of this investigation can be summarized in the following way. First, the data indicate that the pragmatic protocol is a useful tool for deriving a profile of communicative deficits across clinical populations. Four distinct profiles emerged that separated the four diagnostic groups on the basis of their performance on a range of pragmatic parameters. In the absence of detailed clinical profiles, we are making no claims about consistent group differences. However, we are claiming the potential usefulness of the tool for distinguishing among patterns of pragmatic deficits.

Second, the data indicated that the number of pragmatic parameters judged inappropriate, in absolute terms, were low across subject groups. The mean percentage of inappropriate pragmatic parameters for the children with articulation disorders was 4% of the total, for the children with language disorders was 12%, for adults with left hemisphere lesions was 18%, and for adults with right hemisphere lesions was 14%. However, there was a fairly large range of variability, as indicated by the standard deviations, within each of the four clinical groups.

In all likelihood, this variability reflects two aspects of the study. To begin with, the children with language and articulation disorders were observed conversing with either their teacher or speech pathologist. Even though the criterion of listener familiarity was met, it is possible that the conversational partner in the dyad observed could influence the structure and content of the interaction. For example, a more facilitative partner could encourage initiation and participation; whereas another partner could assume a dominant position in the conversation and allow fewer opportunities for initiation on the part of the disordered communicator. Therefore, in using the tool it is important to consider the role each participant plays in structuring the interaction. The results obtained should be evaluated relative to the contributions made by both speaker and listener. In fact, the tool cannot be used in any other way.

This variability could also reflect the lack of homogeneity of subjects due to the general diagnostic classification used to select participants for this study. For example, if subjects with language disorders had been separated into subgroups according to comprehension-production relationships (e.g., high comprehension-low production, low comprehension and production), the variability may have been reduced. Moreover, different profiles of pragmatic deficit may have emerged. Several investigators have hypothesized (e.g., Fey & Leonard, 1983; Prutting & Kirchner, 1983) that the particular combination of linguistic and cognitive deficits identified clinically will yield subgroups of pragmatic deficits. By inspecting the individual subject data presented in the figures, this hypothesis is validated to some extent. For example, the profiles for Subjects 14, 15, and 38 in the group of language-disordered children are quite different (see Figure 4). These profiles suggest that the term *pragmatic deficit* cannot be defined by the same set of parameters for all subjects with a similar diagnostic label.

For Subject 14 in the language-disordered group, the major source of perceived communicative difficulty was in the appropriate use of speech acts. This refers to the variety and number of speech acts successfully accomplished as well as the ability to take both the speaker and listener role (e.g., acknowledgment of comments made by

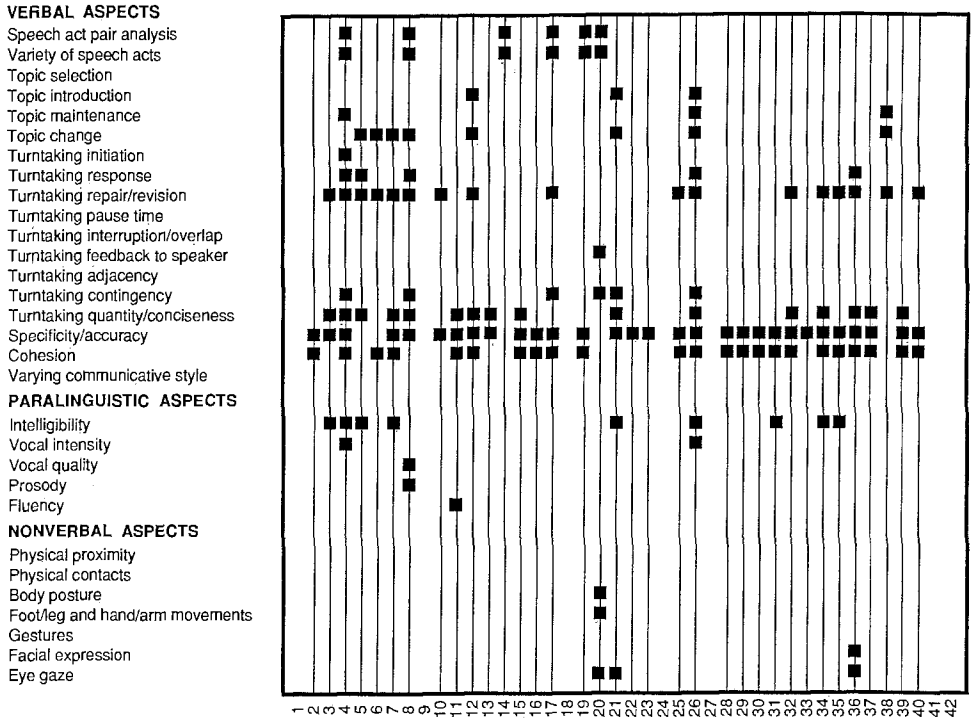


FIGURE 4. Pragmatic parameters marked inappropriate for the 42 children in the language-disordered group.

the partner or requesting information or actions). For Subject 15, the profile is quite different. The issues that were judged to interfere with communication deal with the ability to select and retrieve lexical items appropriate to the context; the ability to produce segments of unified, relevant, and connected text; and the ability to provide sufficient but not excessive or unnecessary information for the listener. And finally, for Subject 38, yet another profile emerged. For this subject, areas of deficit were focused on aspects of topic including the ability to maintain and change topic at appropriate points in the discourse and the ability to repair or ask for clarification when necessary.

Different profiles may also reflect differences among subgroups for the disordered adult subjects as well. For a patient with a fluent aphasia, speech is often plentiful but deficient in content and intelligibility due to high proportions of paraphasia (literal and verbal) and deficits in lexical access. In contrast, the nonfluent patient produces speech that is limited to a few words, is characterized by agrammatical structure, and often contains high proportions of apraxic errors with increased response latency. In both cases, successful communication is dependent on the availability of lexical items and structural types (primarily linguistic or speech production parameters). In both cases, the burden of communication may lie with the listener to extrapolate meaning from content. The result is a perceived lack of communicative competence but for very different reasons. The data from two of the aphasic subjects in this study, Subjects 1 and 9, illustrate the differences in profiles that may be obtained depending on the site of injury and type of aphasia (see Figure 5). Subject 1, a fluent aphasic, showed deficits in repair and revision strategies, intelligibility, and vocal intensity as well as a cluster of parameters that centered on the ability to generate cohesive, relevant, and explicit messages. For Subject 9, a nonfluent aphasic, deficits in the ability to generate concise, clear messages were also identified along with variety of speech acts, pause time (too long in this case), and fluency. The point is, the way in which the profile of deficits is distributed within a diagnostic population will be variable. A general diagnostic label alone does not allow the clinician to predict the exact way in which deficits interact to produce a loss of communicative ability. In addition to the groups discussed in this paper, head-injured adults have been studied using the protocol. The results are discussed elsewhere (Mentis, 1985; Milton, Prutting, & Binder, 1984).

It is important to keep in mind several aspects of the protocol and its use. First, the protocol is considered a general communicative index. This is not a diagnostic procedure. The treatment strategies adopted for a particular client will be based on detailed assessment of the pragmatic parameters that have been judged inappropriate. The clinical value of this procedure is as a descriptive taxonomy. The tool provides the clinician with a profile of performance deficits across 30 nonverbal, paralinguistic, and verbal parameters that affect communicative competence. Once certain parameters have been identified as being deficient, they can be aggregated into clinical clusters, which are both functionally and behaviorally grouped. The identification of intact abilities is also important from a clinical standpoint. These aspects can provide important information that can be used in designing treatment strategies that build on existing abilities. In

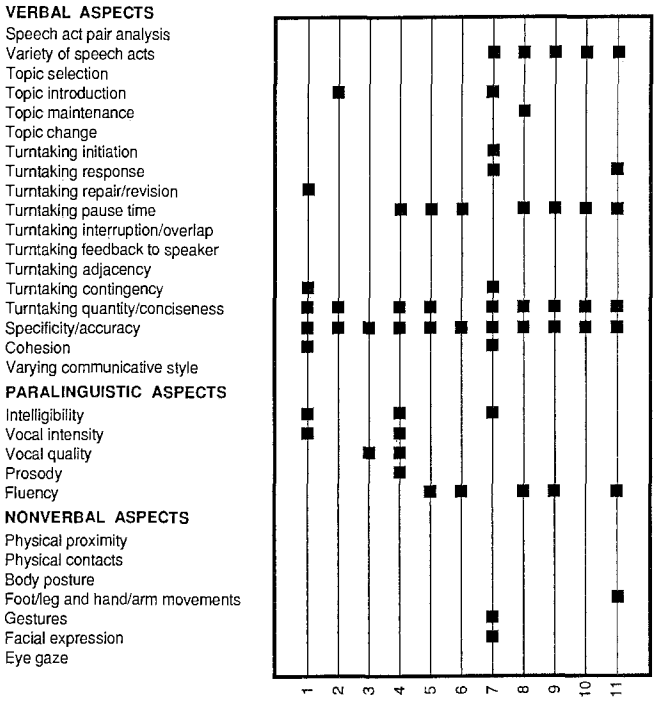


FIGURE 5. Pragmatic parameters marked inappropriate for the 11 adults in the left hemisphere brain-damaged group.

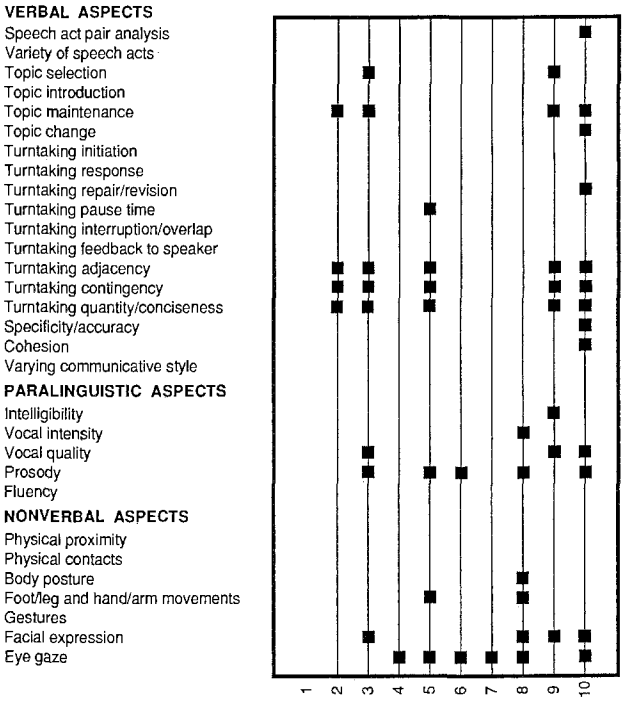


FIGURE 6. Pragmatic parameters marked inappropriate for th 10 adults in the right hemisphere brain-damaged group.

any case, it is the individual configuration of communicative performance that determines the extent to which additional diagnostic procedures may be useful.

Second, as previously indicated, the data suggested that the average number of inappropriate pragmatic parameters for subjects in all four diagnostic categories was relatively low (no less than 82% appropriate on the average for any group). However, analysis on the basis of frequency alone is misleading because a parameter was judged appropriate or not depending on whether it appeared to interfere with the subject's ability to communicate successfully. Moreover, no particular cutoff score has been provided to suggest those patients falling above a predetermined level have no pragmatic deficit and those falling below are impaired. The protocol is used in such a way that a behavior occurring only once in the observational period but judged penalizing would be marked inappropriate. The rationale is that if only one parameter is judged inappropriate and used in such a way that it interferes with communication, that parameter should be assessed further to determine whether this individual frequently displayed this type of behavior. The clinician would make further observations in other situations (e.g., classroom, home, or work environment) to determine whether this was simply an isolated incident or a pattern of interaction that occurs in many contexts. On the other end of the continuum, there may be clinical evidence (on standardized measures) of a deficit that does not make a noticeable difference in one's ability to communicate effectively. If the difference does not make a difference in the overall communicative interaction and in the perceived level of competence, it is not considered inappropriate. It is quite likely that some parameters used inappropriately are more penalizing, from a conversational standpoint, than others. Furthermore, certain combinations of deficits may be more penalizing than other combinations. In other words, frequency alone cannot be considered an index of severity when using this tool.

And finally, the pragmatic protocol is separated from other pragmatic analyses in one additional way. Hypotheses about the pragmatic deficits displayed by the individual are generated from larger segments of performance and then evaluated in relation to deficits in their component abilities. That is, in pragmatic assessment one must consider the effects of deficits in other aspects of development on the perceived level of communicative competence. Here the clinician is interested in the relationship between deficits in specific abilities, say naming or attention, and the subsequent integration of these abilities into conversational language. As an example, consider the problem of anomia or word-retrieval deficit in aphasia and childhood language disorder. One of the parameters most frequently judged inappropriate for both groups in this study was specificity and accuracy. The problem is one of making clear reference as opposed to the overuse of nonspecific terms (e.g., pronouns, indefinite anaphora, etc.) or circumlocutory remarks. Clearly, this is a conversational parameter that is dependent both on lexical diversity and lexical access and would be considered linguistic in nature. Yet, the conversational consequence of word-retrieval deficit is lack of specificity and accuracy in expression allowing, in some cases, output that is sufficient in amount but deficient in content and clarity. The patient's use of language at the level of discourse is an often neglected source of information for the clinical speech-language pathologist. The study of language in discourse is a powerful assessment tool that has been

overlooked, particularly in the development of standardized test instruments. To understand how or whether clinical deficits affect communicative competence, analysis of larger segments of performance is necessary.

The present investigation was designed to test the clinical utility of a descriptive taxonomy that evaluates a 15-min sample of communication using 30 dimensions of pragmatic functioning. This seems to be of considerable clinical benefit. That is, the protocol appears to be suitable as an index of the extent to which clinical deficits affect communicative competence. The results of this analysis guide the clinician to clusters of parameters that require further assessment. The results also allow the clinician to identify intact abilities that can be used in treatment.

The importance of continued study in the area of pragmatics is underscored by findings from a study by Mueller (1983). Using the protocol as a measure of pragmatic functioning, she studied the communication patterns of developmentally delayed adults. Mueller found that overall societal likability ratings correlated +.80 with pragmatic abilities, +.40 with semantic abilities, +.20 with phonologic abilities, and .00 with syntactic abilities. These results suggest that the pragmatic aspects of language are intimately linked to judgments of a perceived level of social competence. Our effectiveness as clinicians is judged, in part, by the impact our remediation efforts have on an individual's ability to function as a productive member of society. In cases where only limited advancement in the structural aspects of language can be predicted, remediation of the pragmatic aspects of communication may contribute most to a level of social acceptability.

Future research should address the performance of well defined clinical groups matched on diagnostic profiles to extract patterns or clusters of dimensions on which the subjects perform well or poorly. This kind of research would allow us to understand better the nature and impact of a pragmatic deficit in a population of disordered subjects based on pattern analysis from relatively homogeneous groups. We believe that with an in depth descriptive account of linguistic and cognitive performance it would be possible to predict the areas that will emerge as strengths and weaknesses at the pragmatic level. As discussed earlier, several researchers proposed that various subgroups would emerge across disordered populations (e.g., Fey & Leonard, 1983; Prutting & Kirchner, 1983). Even though our groups were not diagnostically homogeneous, distinct patterns emerged that separated one clinical population from another.

The descriptive taxonomy is an attempt to embellish that important section in our clinical assessment report entitled "Clinical Impressions." This refers to the perceived effects of various deficits on overall communicative competence. We have taken the notion of clinical impression and given it the prominent position it deserves. We have included it from the start within the formal assessment necessitating observation, documentation, and interpretation across a range of abilities using the form herein described as the pragmatic protocol.

ACKNOWLEDGMENT

The data for this study were collected as part of four separate master's theses directed by the first author at the University of California, Santa Barbara. Therefore, we gratefully acknowledge the contributions of Patricia Hassan (1982), Pat McHale-Buen (1982), Glenn Binder (1984), and Joyce Gauvain (1985).

REFERENCES

ALLWOOD, J., ANDERSSON, L.-G., & DAHL, O. (1977). *Logic in linguistics.* Cambridge: Cambridge University Press.

ARTHUR, G. (1952). *The Arthur Adaptation of the Leiter International Scale.* Chicago: Stoelting.

AUSTIN, J. (1962). *How to do things with words.* Cambridge: Harvard University Press.

BATES, E. (1976). *Language in context.* New York: Academic Press.

BATES, E. (1979). *The emergence of symbols.* New York: Academic Press.

BINDER, G. (1984). *Aphasia: A societal and clinical appraisal of pragmatic and linguistic behaviors.* Unpublished master's thesis, University of California, Santa Barbara.

BLOOM, L., & LAHEY, M. (1978). *Language development and language disorders.* New York: John Wiley & Sons.

BLOOM, L., ROCISSANO, L., & HOOD, L. (1976). Adult-child discourse: Developmental interaction between information processing and linguistic knowledge. *Cognitive Psychology, 8,* 521–522.

BRANDT, R. (1972). *Studying behavior in natural settings.* New York: Holt, Rinehart & Winston.

BRINTON, B., & FUJUKI, M. (1984). The development of topic manipulation skills in discourse. *Journal of Speech and Hearing Research, 27,* 350–358.

BRINTON, B., FUJUKI, M., LOEB, D., & WINKLER, E. (1986). Development of conversational repair strategies in response to requests for clarification. *Journal of Speech and Hearing Research, 29,* 75–81.

CHOMSKY, N. (1957). *Syntactic structures.* The Hague: Mouton.

CHOMSKY, N. (1965). *Aspects of a theory of syntax.* Cambridge: MIT Press.

CRAIG, H., & GALLAGHER, T. (1982). Gaze and proximity as turn regulators within three-party and two-party child conversations. *Journal of Speech and Hearing Research, 25,* 65–75.

CURTISS, S., KEMPLER, D., & YAMADA, J. (1981). *UCLA working papers in cognitive linguistics.* Los Angeles: UCLA Department of Linguistics.

DUNCAN, S., & FISKE, D. (1977). *Face to face interaction: Research, methods and theory.* Hillsdale, NJ: Lawrence Erlbaum Associates.

DUNN, L., & DUNN, L. (1981). *Peabody Picture Vocabulary Test—R.* Circle Pines, MN: American Guidance Service.

ERVIN-TRIPP, S. (1977). Wait for me roller-skate. In E. Ochs (Ed.), *Developmental pragmatics* (pp. 165–188). New York: Academic Press.

ERVIN-TRIPP, S. (1979). Children's verbal turntaking. In E. Ochs (Ed.), *Developmental pragmatics* (pp. 391–414). New York: Academic Press.

FELDMAN, R. (Ed.). (1982). *The development of nonverbal behavior in children.* New York: Springer.

FEY, M., & LEONARD, L. (1983). Pragmatic skills of children with specific language impairment. In T. Gallagher & C. Prutting (Eds.), *Pragmatic assessment and intervention issues in language* (pp. 65–82). San Diego: College-Hill Press.

FISHER, H., & LOGEMANN, J. (1971). *The Fisher-Logemann Test of Articulation Competence.* Boston: Houghton-Mifflin.

FOX, D. (1969). *The research process in education.* New York: Holt, Rinehart & Winston.

GALLAGHER, T. (1977). Revision behaviors in the speech of normal children developing language. *Journal of Speech and Hearing Research, 20,* 303–318.

GARVEY, C. (1975). *Contingent queries.* Unpublished master's thesis, Johns Hopkins University.

GAUVAIN, J. (1985). *The role of pragmatic behaviors in communicative competence: A study of right hemisphere brain-damaged subjects.* Unpublished master's thesis, University of California, Santa Barbara.

GOLDMAN, R., & FRISTOE, M. (1972). *Goldman-Fristoe Test of Articulation.* Circle Pines, MN: American Guidance Service.

GRICE, H. (1975). Logic and conversation. In P. Cole & J. Morgan (Eds.), *Studies in syntax and semantics, speech acts* (pp. 41–58). New York: Academic Press.

HALLIDAY, M., & HASSAN, R. (1976). *Cohesion in English.* London: Longman.

HASSAN, P. (1982). *A clinical appraisal of pragmatic behaviors.* Unpublished master's thesis, University of California, Santa Barbara.

HOFFER, B., & ST. CLAIR, N. (Eds.). (1981). *Developmental kinesics: The emerging paradigm.* Baltimore: University Park Press.

HOLLAND, A. (1980). *Communicative abilities in daily living.* Baltimore: University Park Press.

HOLLAND, A. (1983). Aphasia with and without adjectives: Remarks on the problems of classifying aphasic patients. In R. Brookshire (Ed.), *Clinical aphasiology: Conference proceedings* (pp. 289–291). Minneapolis: BRK.

KEENAN, E. (1977). Making it last: Repetition in children's discourse. In S. Ervin-Tripp & C. Mitchell-Kernan (Eds.), *Child discourse* (pp. 125–138). New York: Academic Press.

KEENAN, E., & KLEIN, E. (1975). Coherency in children's discourse. *Journal of Psycholinguistic Research, 4,* 365–380.

KEENAN, E., & SCHIEFFELIN, B. (1976). Topic as a discourse notion. In C. Li (Ed.), *Subject and topic* (pp. 337–384). New York: Academic Press.

KERTEZ, M. (1982). *Western Aphasia Battery.* New York: Grune & Stratton.

KIRK, S., MCCARTHY, J., & KIRK, W. (1968). *Illinois Test of Psycholinguistic Abilities.* Los Angeles: Western Psychological Services.

LAHEY, M., & LAUNER, P. (1986). *Unraveled yarns: Narratives in school-age children.* Paper presented at the California Speech-Language-Hearing Association, Monterey, CA.

LEE, L. (1969). *The Northwestern Syntax Screening Test.* Evanston, IL: Northwestern University.

LEVINSON, S. (1983). *Pragmatics.* Cambridge: Cambridge University Press.

LYONS, J. (1977). *Semantics* (Vols. 1 & 2). Cambridge: Cambridge University Press.

MCHALE-BUEN, P. (1982). *A societal appraisal of pragmatic behaviors in normal children with articulation disorders.* Unpublished master's thesis, University of California, Santa Barbara.

MCTEAR, M. (1985). Pragmatic disorders: A case study of conversational disability. *British Journal of Disorders of Communication, 20,* 129–142.

MENTIS, M. (1985). *Cohesion in the discourse of normal and head-injured adults.* Unpublished master's thesis, University of California, Santa Barbara.

MEYERS, P. (1986). Right hemisphere impairment. In J. Costello & A. Holland (Eds.), *Speech and language disorders* (pp. 935–966). San Diego: College-Hill Press.

MILTON, S., PRUTTING, C., & BINDER, G. (1984). Appraisal of communicative competence in head injured adults. In R. Brookshire (Ed.), *Clinical Aphasiology Conference proceedings* (pp. 114–123). Minneapolis: BRK Publishers.

MITCHELL-KERNAN, C., & KERNAN, K. (1977). Pragmatics of directive choice among children. In S. Ervin-Tripp & C. Mitchell-Kernan (Eds.), *Child discourse* (pp. 189–208). New York: Academic Press.

MUELLER, S. (1983). *An investigation in social competence using clinical and societal profiles.* Unpublished master's thesis. University of California, Santa Barbara.

PARRET, H. (1983). *Semiotics and pragmatics.* Amsterdam: John Benjamins Publishing.

PEIRCE, C. (1878). How to make ideas clear. *Popular Science, 12,* 286–302.

PENN, C. (1983). *Syntactic and pragmatic aspects of aphasic language.* Unpublished doctoral dissertation, University of Witwatersrand, Johannesburg, South Africa.

PRINZ, P., & WEINER, F. (in press). *Pragmatics Screening Test.* San Antonio, TX: Psychological Corporation.

PRUTTING, C. (1982). *Observational protocol for pragmatic behaviors* [Clinic manual]. Developed for the University of California Speech and Hearing Clinic, Santa Barbara.

PRUTTING, C., & KIRCHNER, D. (1983). Applied pragmatics. In T. Gallagher & C. Prutting (Eds.), *Pragmatic assessment and intervention issues in language* (pp. 29–64). San Diego: College-Hill Press.

REES, N. (1978). Pragmatics of language. In. R. Schiefelbusch (Ed.), *Bases of language intervention* (pp. 191–268). Baltimore: University Park Press.

ROSS, E., & MASULAM, M. (1979). Dominant language functions of the right hemisphere? *Archives of Neurology, 36,* 144–148.

ROTH, F., & SPEKMAN, N. (1984). Assessing the pragmatic abilities of children: Part I. Organizational framework and assessment parameters. *Journal of Speech and Hearing Disorders, 49,* 2–11.

SACHS, J., & DEVIN, J. (1976). Young children's use of age appropriate speech styles in social interaction in role playing. *Journal of Child Language, 3,* 81–98.

SACKS, H., SCHEGLOFF, E., & JEFFERSON, G. (1978). A simplest systematics for the organization of turn taking for conversation. *Language, 50,* 696–735.

SCHERER, K., & EKMAN, P. (Eds.). (1982). *Handbook of methods in nonverbal behavior research.* Cambridge: Cambridge University Press.

SEARLE, J. (1969). *Speech acts: An essay in the philosophy of language.* Cambridge: Cambridge University Press.

SEMEL, E., & WIIG, E. (1980). *Clinical Evaluation of Language Functions.* Columbus: Charles E. Merrill.

SHATZ, M., & GELMAN, R. (1973). The development of communication skills: Modification in the speech of young children as a function of the listener. *Monographs of the Society for Research in Child Development, 38,* 1–37.

SHRIBERG, L., & KWIATKOWSKI, J. (1980). *Natural Process Analysis (NPA): A procedure for phonological analysis of continuous speech samples.* New York: John Wiley & Sons.

TERMAN, L., & MERRILL, M. (1973). *Stanford-Binet Intelligence Test, Form L-M.* Boston: Houghton-Mifflin.

VAN DIJK, T. (Ed.). (1976). *Pragmatics of language and literature.* Amsterdam: North Holland.

VON RAFFLER-ENGEL, W. (Ed.). (1980). *Aspects of nonverbal communication.* Amsterdam: Swets & Zeitlinger.

WECHSLER, D. (1972). *Wechsler Intelligence Scale for Children—Revised.* New York: Psychological Corporation.

Received June 1, 1986
Accepted July 28, 1986

Requests for reprints should be sent to Carol A. Prutting, Ph.D., Speech and Hearing Sciences, University of California, Santa Barbara, CA 93106.

APPENDIX

Pragmatic Protocol

NAME: _____ DATE: _____

COMMUNICATIVE SETTING OBSERVED _____ COMMUNICATIVE PARTNER'S RELATIONSHIP _____

Communicative act	*Appropriate*	*Inappropriate*	*No opportunity to observe*	*Examples and comments*
Verbal aspects				
A. Speech acts				
1. Speech act pair analysis				
2. Variety of speech acts				
B. Topic				
3. Selection				
4. Introduction				
5. Maintenance				
6. Change				
C. Turn taking				
7. Initiation				
8. Response				
9. Repair/revision				
10. Pause time				
11. Interruption/ overlap				
12. Feedback to speakers				
13. Adjacency				
14. Contingency				
15. Quantity/ conciseness				
D. Lexical selection/ use across speech acts				
16. Specificity/ accuracy				
17. Cohesion				
E. Stylistic variations				
18. The varying of communicative style				
Paralinguistic aspects				
F. Intelligibility and prosodics				
19. Intelligibility				
20. Vocal intensity				
21. Vocal quality				
22. Prosody				
23. Fluency				
Nonverbal aspects				
G. Kenesics and proxemics				
24. Physical proximity				
25. Physical contacts				
26. Body posture				
27. Foot/leg and hand/arm movements				
28. Gestures				
29. Facial expression				
30. Eye gaze				

Definitions for Communicative Parameters Assessed Using the Pragmatic Protocol

VERBAL ASPECTS

Speech act pair analysis — The ability to take both speaker and listener role appropriate to the context. Types: Directive/compliance—personal need, imperatives, permissions, directives, question directives, and hints. Query/response—request for confirmation, neutral requests for repetition, requests for specific constituent repetition. Request/response—direct requests, inferred requests, requests for clarification, acknowledgment of request for action. Comment/acknowledgment—description of ongoing activities; of immediate subsequent activity; of state or condition of objects or person; naming; acknowledgments that are positive, negative, expletive, or indicative.

Examples: Appropriate behaviors: Initiates directives, queries, and comments; responds to directives by complying; responds to queries; responds appropriately to requests; and acknowledges comments made by the speaker. Appropriate behavior can be verbal or nonverbal as in the case of taking appropriate action to a directive or request. Inappropriate behaviors: Does not initiate directives, queries, and comments; does not respond to directives, requests, or queries by the speaker; and does not use acknowledgments made by the speaker either nonverbally or verbally.

References: (Austin, 1962; Gallagher, 1977; Garvey, 1975; Mitchell-Kernan & Kernan, 1977; Searle, 1969).

Variety of speech acts — The variety of speech acts or what one can do with language such as comment, assert, request, promise, and so forth.

Examples: Appropriate behaviors: The partner shows both appropriate use of and diversity in the number of different speech acts he can accomplish. Inappropriate behaviors: The partner shows inappropriate use or a reduced range of different speech acts he or she can use (e.g., a particular child whose productive repertoire is restricted to requests for objects with no other observed speech act types).

References: (Austin, 1962; Mitchell-Kernan & Kernan, 1977; Searle, 1969).

Topic

- a. Selection — The selection of a topic appropriate to the multidimensional aspects of context.
- b. Introduction — Introduction of a new topic in the discourse.
- c. Maintenance — Coherent maintenance of topic across the discourse.
- d. Change — Change of topic in the discourse.

Examples: Appropriate behaviors: The speaker/listener is able to make relevant contributions to a topic, is able to make smooth changes in topic at appropriate times in the discourse, is able to select appropriate topics for discussion given the context and participants, and is able to end discussion of a topic at an appropriate place in the discourse. Inappropriate behaviors: The introduction of too many topics within a specified time limit, the inability to initiate new topics for discussion, the inability to select appropriate topics for discussion given the context and participants, and the inability to make relevant contributions to a topic. Inability to maintain topic may frequently co-occur with high frequency of new topic introductions.

References: (Bloom, Rocissano, & Hood, 1976; Brinton & Fujuki, 1984; Ervin-Tripp, 1979; Keenan, 1977; Keenan & Schieffelin, 1976).

Turn taking — Smooth interchanges between speaker/listener.

- a. Initiation — Initiation of speech acts.
- b. Response — Responding as a listener to speech acts.
- c. Repair/revision — The ability to repair a conversation when a breakdown occurs, and the ability to ask for a repair when misunderstanding or ambiguity has occurred.
- d. Pause time — Pause time that is too short or too long between words, in response to a question, or between sentences.
- e. Interruption/overlap — Interruptions between speaker and listener; overlap refers to two people talking at once.
- f. Feedback to listener — Verbal behavior to give the listener feedback such as *yeah* and *really*; nonverbal behavior such as head nods to show positive reactions and side to side to express negative effects or disbelief.
- g. Adjacency — Utterances that occur immediately after the partner's utterance.
- h. Contingency — Utterances that share the same topic with a preceding utterance and that add information to the prior communicative act.
- i. Quantity/conciseness — The contribution should be as informative as required but not too informative.

Examples: In all of the above categories, appropriate and inappropriate behavior is judged in relationship to both speaker and listener in the dyad. Appropriate behaviors: Initiating conversation and responding to comments made by the speaker, asking for clarification when a portion of the message is misunderstood and revising one's own message to facilitate understanding, avoiding interrupting or talking before the other partner is finished, giving feedback to the speaker as a way of moving the conversation forward, appropriate length of pauses in the conversation to support timing relationships in the conversation, and making comments relevant and informative. Inappropriate behaviors: Little initiation in the conversation forcing one partner to take the burden of moving the conversation forward, no response of inappropriate responses to requests for clarification by the partner, no attempt to ask for repair, long pauses that interrupt timing relationships in the conversation, pause time that is too short and results in overlap or interruptions, little or no feedback to the speaker, and inability to produce comments that are relevant and informative.

References: (Bloom et al., 1976; Brinton, Fujuki, Loeb, & Winkler, 1986; Duncan & Fiske, 1977; Ervin-Tripp, 1977; Ervin-Tripp, 1979; Gallagher, 1977; Grice, 1975; Keenan, 1977; Keenan & Klein, 1975; Keenan & Schieffelin, 1976; Sacks, Schegloff, & Jefferson, 1978).

Lexical selection/use

- Specificity/Accuracy — Lexical items of best fit considering the text.

Examples: Appropriate behaviors: The ability to be specific and make appropriate lexical choices to clearly convey information in the discourse. Inappropriate behaviors: Overuse of unspecified referents that results in ambiguity of the message. Also includes inappropriate choice of lexical items that do not facilitate understanding.

References: (Prutting & Kirchner, 1983).

Specifying relationships between and across speech acts

Cohesion	The recognizable unity or connectedness of text. Types: Reference—semantic relation whereby the information needed for interpretation of some item is found elsewhere in the text. Substitution—cohesive bond is established by the use of substitute item of the same grammatical class. Ellipsis—substitution by zero and refers to sentences or clauses whose structure is such as to presuppose the missing information. Conjunction—logical relation between clauses. Lexical cohesion—achieved through vocabulary selection.

Examples: Appropriate behaviors: Relatedness and unity in the discourse. One is able to follow the conversation, and the ideas are expressed in a logical and sequential way. Inappropriate behaviors: A conversation is disjointed, and utterances do not appear to be related in a logical and sequential fashion. One is unable to follow the line of thinking expressed by the speaker, frequently resulting in misinterpretation and ambiguity.

References: (Halliday & Hassan, 1976; Keenan & Klein, 1975; Lahey & Launer, 1986).

Stylistic variances	Adaptations used by the speaker under various dyadic conditions (e.g., polite forms, different syntax, changes in vocal quality).

Examples: Appropriate behaviors: The ability to adjust speech style to the listener. Inappropriate behaviors: Mismatch between style and status of listener or no difference when required.

References: (Sachs & Devin, 1976; Shatz & Gelman, 1973).

PARALINGUISTIC ASPECTS

Intelligibility	The extent to which the message is understood.
Vocal intensity	The loudness or softness of the message.
Vocal quality	The resonance and/or laryngeal characteristics of the vocal tract.
Prosody	The intonation and stress patterns of the message; variations of loudness, pitch, and duration.
Fluency	The smoothness, consistency, and rate of the message.

Examples: Appropriate behaviors: Speech that is clear; not too loud or too soft; appropriate in quality; and shows appropriate use of intonation, stress, and pitch to support the communicative/linguistic intention of the message. Inappropriate behaviors: Speech that is so unclear as to result in frequent misinterpretations of the message; speech that is too loud or too soft; a quality of speech that is inappropriate to age or sex of speaker and interferes with communication; and the lack of prosodic variation that supports affect and the linguistic aspects of the message.

References: (Duncan & Fiske, 1977; Scherer & Ekman, 1982).

NONVERBAL ASPECTS

Physical proximity	The distance that the speaker and listener sit or stand from one another.
Physical contacts	The number of times and placement of contacts between speaker and listener.
Body posture	Forward lean is when the speaker or listener moves away from a 90-degree angle toward the other person; recline is slouching down from waist and moving away from the partner; side to side is when a person moves to the right or left.
Foot/leg and hand/arm movements	Any movement of the foot/leg or hand/arm (touching self or moving an object or touching part of the body, clothing, or self).
Gestures	Any movements that support, complement, or replace verbal behavior.
Facial expression	A positive expression as in the corners of the mouth turned upward; a negative expression is a downward turn; a neutral expression is the face in resting position.
Eye gaze	One looks directly at the other's face; mutual gaze is when both members of the dyad look at the other.

Examples: Appropriate behaviors: Use of nonverbal aspects of communication that demonstrate level of affiliation between partners, aid in regulating discourse turns, and may supplement or support linguistic aspects of the message. Inappropriate behaviors: Use of nonverbal aspects that interfere with interpersonal/social aspects of communication; behaviors that detract from the content of the message rather than support and regulate discourse.

References: (Craig & Gallagher, 1982; Duncan & Fiske, 1977; Feldman, 1982; Hoffer & St. Clair, 1981; Scherer & Ekman, 1982; Von Raffler-Engel, 1980).

Phonology and Articulation Evaluation Guidelines

A phonology and articulation impairment is the atypical production of speech sounds that may interfere with intelligibility. Errors in sound production are generally classified as motor-based or cognitive/linguistic-based. Motor-based errors are generally called articulation impairments; cognitive/linguistic-based errors are referred to as impairments of phonological processes. While some practitioners classify phonological process errors as language impairments, for purposes of these guidelines they are included, along with articulation impairments under the category of phonology and articulation. An articulation impairment does not exist when: (1) sound errors are consistent with normal articulation development, (2) articulation differences are due primarily to unfamiliarity with the English language, dialectal differences, temporary physical disabilities or environmental, cultural or economic factors, (3) the errors do not interfere with education performance.

1) Formal assessment:

- Must have 1 or more phonology and articulation tests
- If student is Culturally and Linguistically Different (CLD)
    - Tests must be administered by bilingual SLP or SLP with interpreter (use Spanish assessments if appropriate or write disclaimer if interpreted into a different language)
    - If English is primary language, test using English words and probe error sounds in words from secondary language as appropriate
    - If bilingual, disability must be evident in both languages
    - If student does not speak English, disability must be evident in primary language
    - Carefully consider differences and influences of primary and secondary languages on sound production and usage (refer to CLD section)

Phonology/Articulation Tests

Goldman-Fristoe Test of Articulation-2 (GFTA-2)
Arizona Articulation Proficiency Scale-3 (AAPS-3)
Clinical Assessment of Articulation and Phonology (CAAP)
Contextual Probes of Articulation Competence – Spanish (CPAC-S)

2) Stimulability:

- Observation of production of error sounds in syllables and words

3) Intelligibility:

- Objective and subjective measures (write statement on protocol or in comments section of rating scale and in evaluation summary)

4) Oral Motor/Sequencing:

- Use PSD Oral Peripheral Evaluation

5) Adverse Effect on Educational Performance:

- Teacher Input Form (required)
- Parent Input Form (document in comments if not returned)
- Student Input Form as appropriate
- CLD Input Forms as appropriate
- Other Teacher Checklists as appropriate
- Other CLD Checklists/Interviews as appropriate

Phonology and Articulation Scale Instructions

Circle the appropriate scores for each of the five categories: Sound production, stimulability, intelligibility, oral motor function and adverse affect on educational performance.

Determination of the rating for formal assessments should be based on derived scores of relative standing, such as standard scores or percentiles.

When a dialect or other language influence is observed a comparative analysis of such differences is necessary prior to using the rating system. (See CLD section)

Stimulability is rated based on formal and informal observation of the student's ability to produce speech sounds in the context of syllables and words.

Determination of intelligibility is based on objective and/or subjective measures.

Decisions about the impact of oral motor functioning require professional judgment from observations made during oral motor examinations and performance of diadochokinetic rates. (Use PSD Oral Peripheral Evaluation)

Use the Teacher Input Form regarding phonology and articulation to assess the adverse affect on educational performance.

Circle the score for each row and add them to obtain the **Total Score (TS)** and the corresponding **Final Rating** (**FR**)

Total Score: 0-9	No disability	Final Rating A
Total Score: 10-16	Mild	Final Rating B
Total Score: 17-24	Moderate	Final Rating C
Total Score: 25-28	Severe	Final Rating D

When more than one rating scale is used for a student, all the **FRs** should be used to determine a single rating as follows:

One or more ratings of A = A
One or more ratings of B = B
One rating of C = C
Two or more ratings of C = D
One or more ratings of D = D

The **FR** is used as a tool in determining the need for speech-language services.

Ratings of A or B: Collected data does not demonstrate the need for specialized services at this time.
Ratings of C or D: Collected data demonstrates the need of specialized services at this time.

If indicated, a variance may be applied to the **FR**. (See following page)

The comment section may include statements regarding discrepancies among individual tests, subtests, classroom performance and other factors that are relevant to the determination of severity.

Variance in Determining Final Rating

When the **FR** has been determined, professional judgment may be used to add or subtract one rating point after considering the significance and impact of the following factors:

1. History of general and special education standardized testing
   a) standard deviation from the mean
   b) evidence of growth through education
   c) profile of strengths and needs
2. Educational growth
   a) rate of learning
   b) growth profile over time
3. Participation in the general curriculum
4. Progress in the general education curriculum through classroom interventions
5. School history/attendance
6. Consistency of general and/or special education programming
7. Student motivation toward general and/or special education programming
8. Consistent use of general or special education supports
9. Student's attention during instruction

The use of the variance should be considered only during the eligibility meeting so that all team members are able to discuss the factors involved. Document the factors and the rating on the "Determination of Eligibility" form of the IEP document.

Phonology and Articulation Rating Scale

Student: _____ Date: _____

School: _____ SLP:_____

Sound Production	Score = 0	Score = 2	Score = 3	Score = 4
	No sound errors and/or phonological processes; errors consistent with typical development SD = 0 - 0.99 SS: 86 - 100 PR: 17 - 50	Speech contains sound errors and/or phonological processes 6 mos. – 1 year below age SD = 1.0 - 1.49 SS: 79 - 85 PR: 8 - 16	Speech contains sound errors and/or phonological processes 1 – 2 years below age SD = 1.5 - 1.99 SS: 71 - 78 PR: 3 – 7	Speech contains sound errors and/or phonological processes > than 2 years below age SD = 2.0 or more SS: <62 - 70 PR: <1 - 2
Stimulability	Score = 0	Score = 2	Score = 3	Score = 4
	Errors stimulable in several contexts	Errors stimulable in at least one context	Although not correct, errors approximate correct production	Most errors not stimulable for correct production
Intelligibility	Score = 0	Score = 4	Score = 6	Score = 8
	Connected speech intelligible	Connected speech intelligible but errors are noticeable	Connected speech substantially unintelligible when context is unknown	Connected speech mostly unintelligible, gestures/cues needed
Oral Motor and/or Motor Sequencing	Score = 0	Score = 2	Score = 3	Score = 4
	Oral motor and/or sequencing adequate for speech production	Oral motor and/or sequencing difficulties are minimal and do not contribute to speech production problems	Oral motor and/or sequencing difficulties interfere with speech production	Oral motor and/or sequencing greatly interferes with speech production; use of cues, gestures, AT needed
Adverse Affect on Educational Performance (Social, Emotional, Academic, Vocational)	Score = 0	Score = 4	Score = 6	Score = 8
	Articulation does not interfere with student's participation in educational settings	Articulation minimally impacts the student's participation in educational settings	Articulation interferes with student's participation in educational settings	Articulation seriously limits student's participation in educational settings
Total Score	**0 2 3 4 5 6 7 8 9**	**10 11 12 13 14 15 16**	**17 18 19 20 21 22 23 24**	**25 26 27 28**
Final Rating	**No Disability A**	**Mild B**	**Moderate C**	**Severe D**

Comments:

Phonology and Articulation
Teacher Input Form

Student's Name: _____Date: _____

Teacher's Name: _____ Birth Date/Age: _____/_____

Language spoken at home/school: _____

What are your concerns regarding your child's speech skills? Please check all that apply.

_____ Student deletes sounds when speaking
_____ Student changes sounds when speaking
_____ Student distorts sounds when speaking
_____ Other concerns please explain: _____

_____

Is your student aware of his/her speech difficulty? _____ Yes _____ No

Does your student appear to be frustrated by his/her speech difficulty?
_____ Never _____ Sometimes _____ Frequently _____Always

Does your student avoid speaking?
_____ Never _____ Sometimes _____ Frequently _____Always

Is it difficult to understand your student?
In known context _____ Never _____ Sometimes _____ Frequently _____Always
Unknown context _____ Never _____ Sometimes _____ Frequently _____Always

Have your student's parents expressed concerns regarding your student's speech skills?
_____ Yes _____ No

How do your student's speech difficulties impact his/her reading, writing, or other academic skills? _____

_____

How do your student's articulation difficulties impact him/her socially, emotionally and/or vocationally? _____

_____

Comments:

_____

Teacher Signature Date

Phonology and Articulation
Parent Input Form

Student's Name: _____ Date: _____

Parent's Name: _____ Birth Date/Age: _____ / _____

Language spoken in the home: _____

Medical History: (i.e., premature, ear infections, tonsils & adenoids, allergies, a quiet baby, developmental milestones such as cooing, babbling, etc.) Explain _____

_____

_____

What are your concerns regarding your child's articulation skills? Please check all that apply.

_____ Child deletes sounds when speaking
_____ Child changes sounds when speaking
_____ Child distorts sounds when speaking
_____ Other concerns please explain _____

_____

Is your child aware of his/her speech difficulty? _____ Yes _____ No

Does your child appear to be frustrated by his/her speech difficulty?
_____ Never _____ Sometimes _____ Frequently _____Always

Does your child avoid speaking?
_____ Never _____ Sometimes _____ Frequently _____Always

Is it difficult to understand your child?
_____ Never _____ Sometimes _____ Frequently _____Always

Is it difficult for others to understand your child?
Familiar people _____ Never _____ Sometimes _____ Frequently _____Always
Unfamiliar people _____ Never _____ Sometimes _____ Frequently _____Always

Are there any situations that make it harder for you to understand your child?

_____

_____

How does your child's speech difficulties affect him/her? _____

_____

Comments:

_____

Parent Signature Date

Phonology and Articulation
Student Input Form

Student's Name: _____Date: _____

Parent's Name: _____ Birth Date/Age: _____ / ____

Language spoken at home/school: _____/_____

What is your concern regarding your speech skills? Please check all that apply.

_____ Leaves out sounds when speaking
_____ Changes sounds when speaking
_____ Inexact sounds when speaking
_____ Other concerns please explain: _____

_____

Do you think you have a speech difficulty? _____ Yes _____ No

Are you frustrated by your speech difficulty?

___ Never ___Sometimes ___Frequently ___Always

Do you avoid speaking?

___Never ___Sometimes ___Frequently ___Always

Is it hard for people to understand you?

People you know well ___Never ___Sometimes ___Frequently ___Always
Other people ___Never ___Sometimes ___Frequently ___Always

How does your speech difficulty impact you educationally? _____

_____

How does your speech difficulty impact you socially, emotionally and/or vocationally?

_____

_____

Comments:

_____

Student Signature Date

Phonology and Articulation Measures

Some measures may be more important than others at certain ages. The following guidelines may be helpful:

- Children 3-5 years of age: Children in this age range are typically those for whom intelligibility, severity process usage, and stimulability using developmental norms are most important.

- Children 6-9 year of age: Children in this age range are typically those for whom speech sound production norms and stimulability will have greatest significance. In addition, social and academic variables should be given stronger consideration.

- Children above the age of 9 years: Children in this age range are those for whom social and academic/vocational considerations are of high importance.

Intelligibility

Assessment of intelligibility is important in determining the educational impact (i.e., social, vocational, or academic) of the articulation or phonological disorder.

1. Collect connected speech sample.
2. Write out each word in each utterance (use phonetics if possible).
3. Use a dash (--) to indicate each unintelligible word.
4. An utterance is considered intelligible only if the entire utterance can be understood.
5. Calculate intelligibility for words and utterances.

Example: Utterances	# of Intelligible Words	Total Words	# of Intelligible Utterances	Total Utterances
1. hi went hom	3	3	1	1
2. ar ju – tu go	4	5	0	1
3. -- -- θm	1	3	0	1
4. pwiz pwe wIf mi	4	4	1	1
5. ar want tu go hom	5	5	1	1
Totals	**17**	**20**	**3**	**5**

$\frac{\text{Intelligible words}}{\text{Total words}} \quad \frac{17}{20} = 85\%$

$\frac{\text{Intelligible utterances}}{\text{Total utterances}} \quad \frac{3}{5} = 60\%$

Intelligibility Percentages in Typical Development (Caplan & Gleason (1988)

Age (years)	By Unfamiliar Listener
2	50%
3	75%
4	100%

Checklist of Factors Related to Speech Intelligibility

Student's Name: _____Date: _____

Teacher: _____Grade: _____

Language spoken at home/school: _____/_____

Check which of the following factors affect the intelligibility of the child's speech.

_____ Number of speech sound errors
_____ Consistency of errors (e.g., some positions/all positions, some/all words containing sound)
_____ Frequency of occurrence of errors
_____ Types of sound errors
_____ Types of phonological processes used
_____ Morphology
_____ Syntax
_____ Length of utterance
_____ Complexity of utterance
_____ Type of speaking task (e.g., imitation/spontaneous, reading/speaking)
_____ Prosody (e.g., inflection, stress, pauses)
_____ Rate of speech
_____ Accompanying nonverbal language (e.g., gestures)
_____ Environmental noise/distractions
_____ Familiarity of listener with speaker
_____ Familiarity of listener with content of speaker's message
_____ Foreign accent or dialect (and familiarity of listener with same)
_____ Fatigue of speaker (time of day)
_____ Positioning/posture of speaker (e.g., lying/sitting/standing/slouched/erect)
_____ Volume of speaker's voice
_____ Hearing status of listener
_____ Listener's patience
_____ Motivation of speaker and listener

Comments:

Adapted from the following sources:
From "Assessing intelligibility: Children's expressive phonologies," by M. Gordon-Brannan, 1994, Topics in Language Disorders, 14 (2), p. 17. Copyright 1994. Used with permission.

From "Clinical evaluation of developmental motor speech disorders," by M. A. Crary, 1995, Seminars in Speech and Language, 16 (2), p. 110-125. Copyright 1995. Used with permission.

Phonology and Articulation
Developmental Norms

Developmental norm charts are provided in these guidelines as examples of the data that may be referenced. Although useful, they should be interpreted with caution and not be the sole determining factor for eligibility consideration. There were some important factors influencing the selection of these developmental norms. The age of acquisition of phonemes and of "suppression" of phonological processes is variable as indicated by inconsistencies across sound development charts. Some research identifies the age at which the average population achieves a specific sound. However, this does not take into account the normal variation in sound development. The use of these norms could result in over-identification (an 'average' age would be the age when 50% of the students have acquired the sound). Other research studies report the age at which most (90%) children have acquired the sound.

The Speech Development Tracking sheet may be helpful profiling an individual student's phonology and articulation skill levels.

Severity Continuum

Omissions/Substitutions/Distortions

- **Profound**
  Extensive Omissions; Many Substitutions;
  Phonemic and Phonotactic Repertoires Extremely Limited
- **Severe**
  Extensive Omissions; Many Substitutions
- **Moderate**
  Some Omissions; Some Substitutions
- **Mild**
  Omissions Rare; Few Substitutions
- **Accepted Variations**
  Regional Dialects etc.

Note: Distortion and **Assimilation** may occur at **all** levels
Distortions observed most often in utterances of children in **Mild/Moderate** levels
Assimilations, especially unexpected, in **Severe/Profound** levels

Phonological Acquisition

Typical Early Phonological Acquisition 1-3 years	**Typical Phonological Acquisition 3-5 years**	**Typical Phonological Acquisition 5-7 years**
Canonical Babbling & Vocables (by 12 mos)	Syllable Structures Omissions Rare (by age 4) Final Consonants Consonant Clusters	Phonemic Inventory Completed Liquids (4-6 years) /θ, ð/ (by age 7)
Recognizable Words (by 18 mos) CV word structures Stops, Nasals & Glide (1^{st} across languages)	Few "Simplifications" Most eliminated (e.g., Fronting)	Phonetic Distortions Lisps—Eliminated (by age 7)
Communication with Words (by age 2) Syllableness VC & CVC (i.e., Word-final Consonants)	Intelligibility >90%	Multisyllabicity
Velars & /s/* Clusters (by age 3) */s/ may be distorted but NOT omitted	"Adult-like" Speech	"Adult-standard" Speech

Client Appropriateness for Phonological Intervention

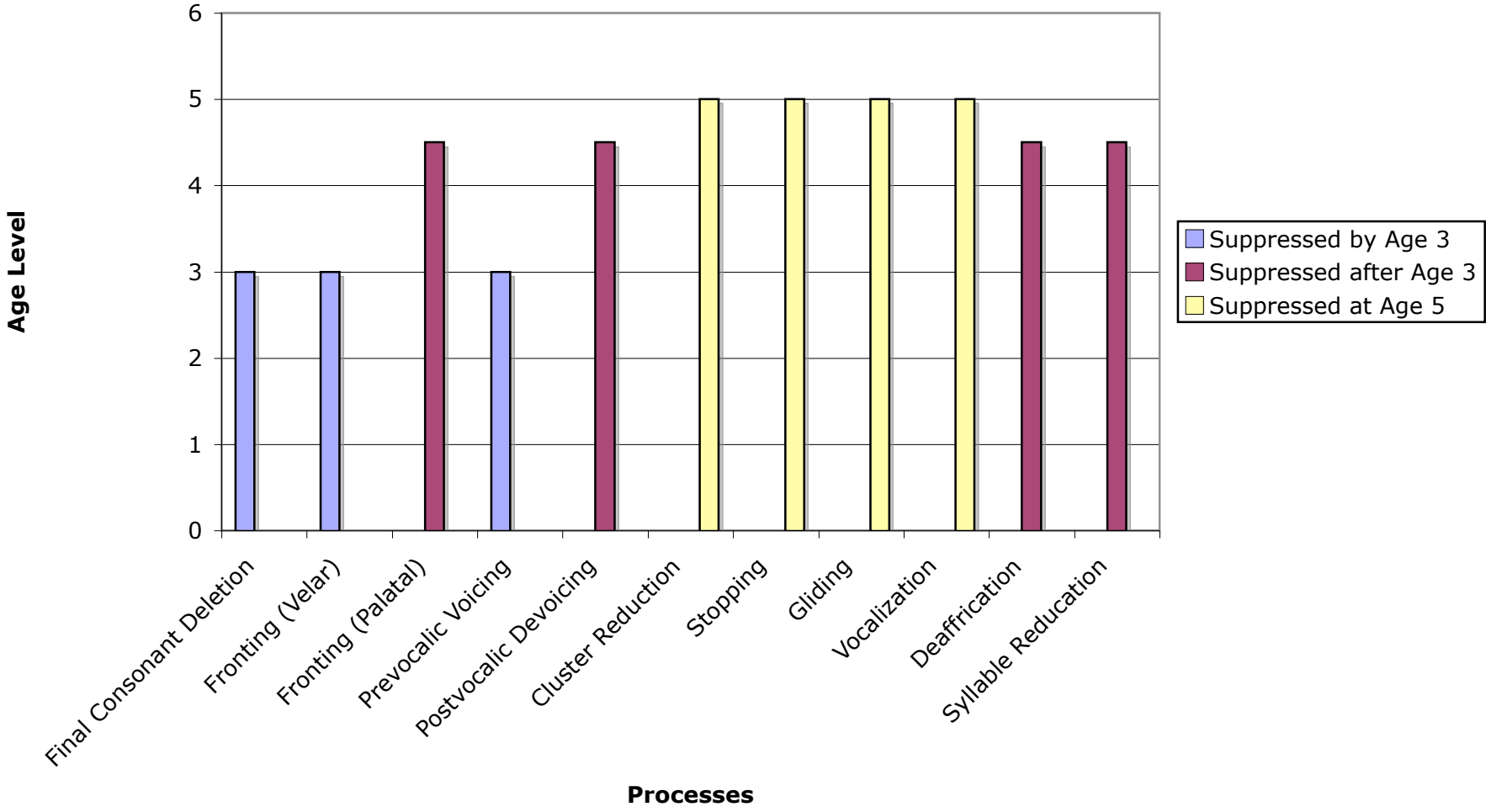
- Candidates **NOT** appropriate for Phonological Cycles Approach
  - Only 1 or 2 sound errors and/or lisps
  - Appropriate productions (for age and linguistic community)
  - Lack of potential for speech
- Candidates **Appropriate** for Phonological Cycles Approach
  - Individuals with **HIGHLY UNINTELLIGIBLE** speech, including most children who have
    - Label of Apraxia/Dyspraxia
    - Hearing Impairment/Cochlear Implant
    - Cognitive Delay
    - Orofacial Anomalies (e.g., repaired cleft palate)

Adapted from the following source:
From "Enhancing phonological & metaphonological skills of children with highly unintelligible speech: an update", by B. W. Hodson, 2009, Utah State University Institute.

Phonological Process Ranges

Based on Normative Data from the Clinical Assessment & Phonology (CAAP)

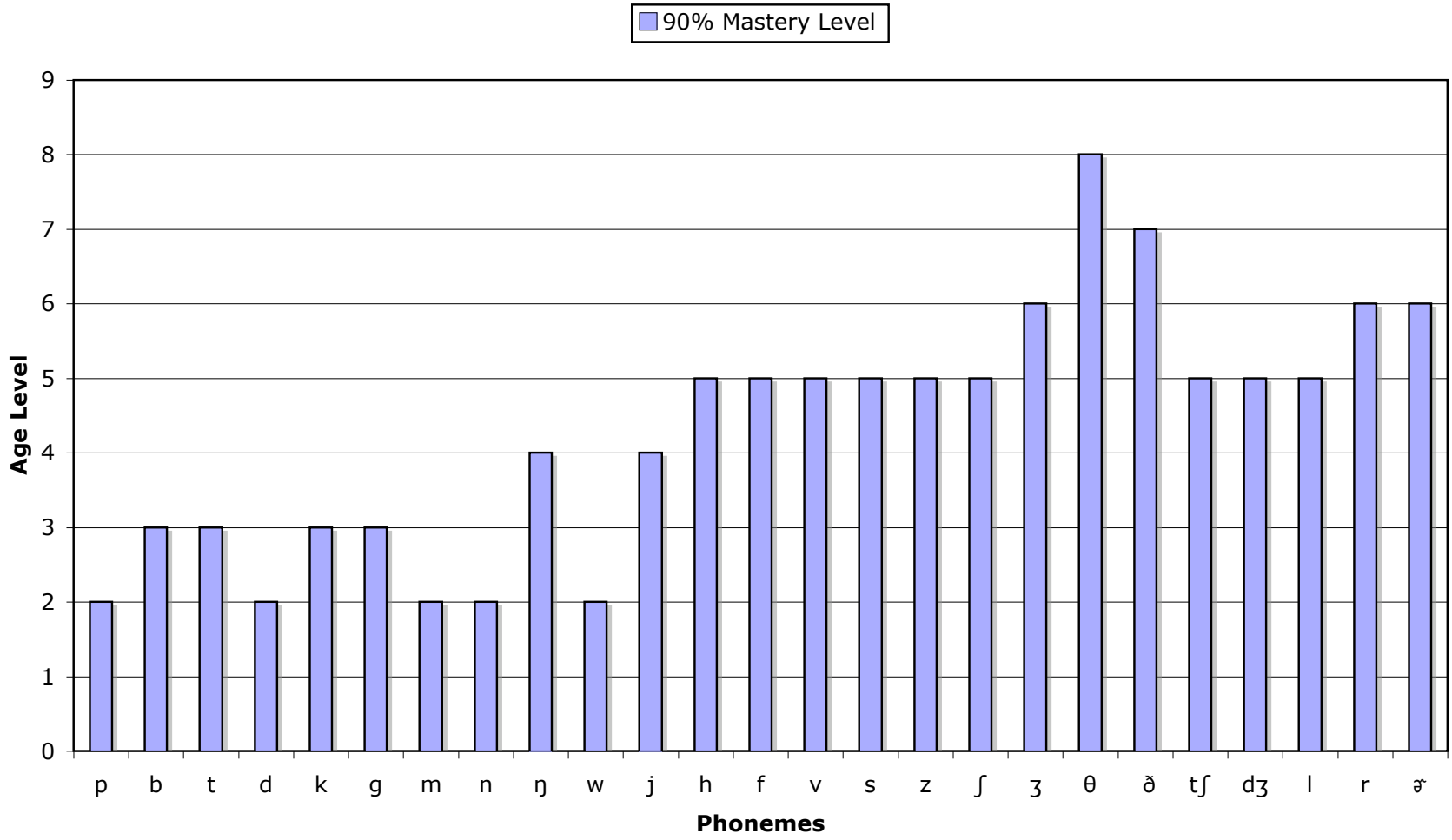
(Secord & Donahue, 2002)

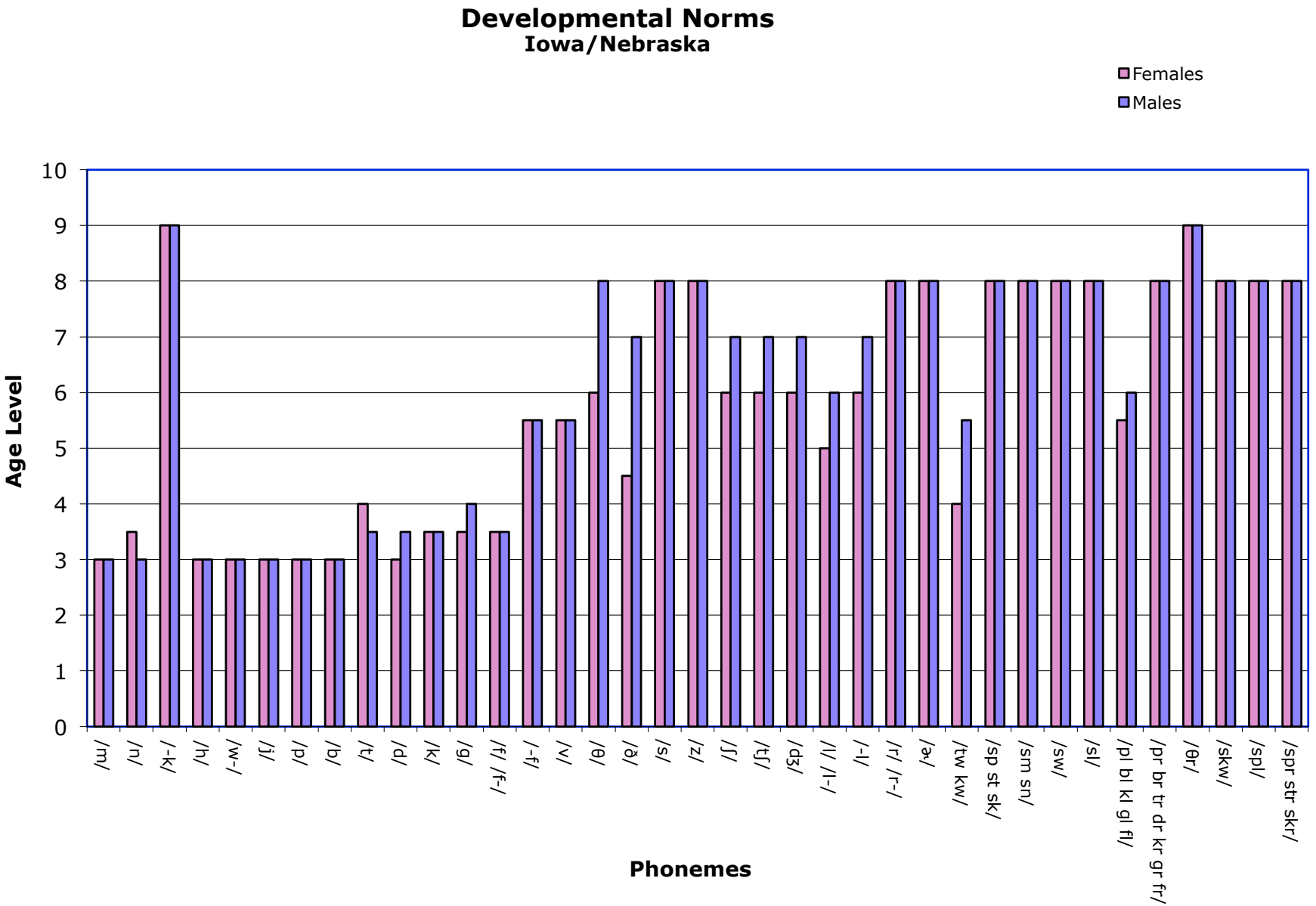


Articulation Developmental Norms

Based on Normative Data from the Clinical Assessment of Articulation & Phonology (CAAP)

(Secord & Donahue, 2002)





Note. See The Iowa articulation norms project and its Nebraska replication, by A. B. Smit, L. Hand, J. Frelinger, J. Bernthal and A. Bird, 1990, Journal of Speech and Hearing Disorders, 55, 779-798. Reprinted with permission.

Iowa – Nebraska Articulation Norms

Listed below are the recommended ages of acquisition for phonemes and clusters, based on the age at which 90% of the children correctly produced the sound.

Phoneme	Age of Acquisition (Females)	Age of Acquisition (Males)
/m/	3:0	3:0
/n/	3:6	3:0
/ŋ/	7:0	7:0
/h-/	3:0	3:0
/w-/	3:0	3:0
/j-/	4:0	5:0
/p/	3:0	3:0
/b/	3:0	3:0
/t/	4:0	3:6
/d/	3:0	3:6
/k/	3:6	3:6
/g/	3:6	4:0
/f-/	3:6	3:6
/-f/	5:6	5:6
/v/	5:6	5:6
/θ/	6:0	8:0
/ð/	4:6	7:0
/s/	7:0	7:0
/z/	7:0	7:0
/ʃ/	6:0	7:0
/tʃ/	6:0	7:0
/dʒ/	6:0	7:0
/l-/	5:0	6:0
/-l/	6:0	7:0
/r-/	8:0	8:0

Word-Initial Clusters	Age of Acquisition (Females)	Age of Acquisition (Males)
/tw kw/	4:0	5:6
/sp st sk/	7:0	7:0
/sm sn/	7:0	7:0
/sw/	7:0	7:0
/sl/	7:0	7:0
/pl bl kl gl fl/	5:6	6:0
/pr br tr dr kr gr fr/	8:0	8:0
/θr/	9:0	9:0
/skw/	7:0	7:0
/spl/	7:0	7:0
/spr str skr/	9:0	9:0

Note regarding phoneme positions:
/m/ refers to prevocalic and postvocalic positions
/h-/ refers to prevocalic positions
/-f/ refers to postvocalic positions

Adapted from the following source.
From "The Iowa articulation norms project and its Nebraska replication," by A. Bosma **Smit**, L. Hand, J. J. Freilinger, J. E. Bernthal, and A. Bird, 1990, Journal of Speech Hearing Disorders, 55, 779-798. Copyright 1990. Used with permission.

Oral-Peripheral Examination

Name: _____ Date: _____

Date of Birth: _____ Examiner: _____

(✓ if typical; Circle abnormalities and describe:)

STRUCTURE	APPEARANCE	MOBILITY
Lips	Symmetry Strength Cleft or Repair Drooling	Pucker Smile Close lips, puff cheeks Bite lower lip Say /p/, /b/, /m/
Tongue	Symmetry Strength Size Surface Frenulum	Protrude Tip up/down Tip left/right Wag right/left quickly Tip to hard palate, draw back Typical swallow Tongue thrust
Oral Cavity Teeth Hard Palate Soft Palate Tonsils Uvula	 Missing, Orthodontics Cleft, Repair, Height, Width Symmetry, Movement Enlarged, Absent Deviation, Bifid, Swollen	 Say "aah" "aah" "aah" Yawn
Jaw	Symmetry Stability Overjet Underjet	 Stable with tongue wag, lift "Clicks" on open/shut Lateral shifts
Breathing	Mouth breathing Nasal congestion Poor breath control	
Voice	Intensity, Pitch, Quality, Breathiness, Gurgles, Resonance	

DIADOCHOKINESIS (one breath)
(✓ if typical; Circle abnormalities and describe:)
L (Labored), A (Arrhythmic), I (Inaccurate)

puh	L	A	I
tuh	L	A	I
kuh	L	A	I
puh-tuh	L	A	I
puh-kuh	L	A	I
tuh-kuh	L	A	I
puh-tuh-kuh	L	A	I

Comments:

The Fletcher Time-by-Count Test of Diadochokinetic Syllable Rate[1]

Name: _____ **Date:** _____

Birthdate/Age: _____ Examiner: _____

Syllable	Repetitions	# Seconds	Norms by Age							
			6	**7**	**8**	**9**	**10**	**11**	**12**	**13**
pʌ	20	___	4.8	4.8	4.2	4.0	3.7	3.6	3.4	3.3
tʌ	20	___	4.9	4.9	4.4	4.1	3.8	3.6	3.5	3.3
kʌ	20	___	5.5	5.3	4.8	4.6	4.3	4.0	3.7	3.6
fʌ	20	___	5.5	5.4	4.9	4.6	4.2	4.0	3.7	3.6
lʌ	20	___	5.2	5.3	4.6	4.5	4.2	4.8	3.7	3.5
			1.0*		0.7*				0.8*	
pʌtʌ	15	___	7.3	7.6	6.2	5.9	5.5	4.8	4.7	4.2
pʌkʌ	15	___	7.9	8.0	7.1	6.6	6.4	5.8	5.7	5.1
tʌkʌ	15	___	7.8	8.0	7.2	6.6	6.4	5.8	5.5	5.1
			2.0*		1.6*				1.3*	
pʌtʌkʌ	10	___	10.3	10.0	8.3	7.7	7.1	6.5	6.4	5.7
			2.8*		2.0*				1.5*	

* Standard deviation for syllable(s) within and across age levels.

Instructions for Test Administration:

(1) Tell the student that you are going to time how fast he can say some sounds. Point out that they are just sounds, not words
(2) Demonstrate pattern of repeating syllable(s) at a rapid rate.
(3) Ask student to repeat the sound with you "like this." Start repeating the syllable(s) and expect student to follow. The rate should be fairly rapid although student may be somewhat slower than you.
(4) Instruct student to say the sounds as fast as he can. Use this response set to check correctness of the utterance pattern and verify effort. If unsure of either accuracy or effort, reinstruct and recheck.
(5) Tell student to "do it again, even faster this time" and "Don't stop until I tell you." Indicate that you need to count "a lot" of the utterances and that if he slows down or stops too soon, you will need to start over again.
(6) Say "Go!" and start stop-watch at moment utterances begin. Hold watch in unobtrusive position so it doesn't distract student. Effort of student may be enhanced by hand gesture. For example, move hand upward as response continues to signal need to keep repeating sounds rapidly.
(7) Count syllables silently until criterion number shown on score sheet is reached.
(8) Say "Stop" and simultaneously turn off the stop-watch.
(9) Read elapsed stop-watch time and enter result in proper space on score sheet.

(10) Reset stop-watch, introduce next syllables(s) and continue until all responses have been elicited and response time transcribed.
(11) Use norms to interpret results.

Oftentimes after the first set of responses, student will start repeating syllables as a new set is introduced. This is accepted as a combination of steps 1 and 2. No other shortcuts should be permitted.

Counting the multisyllables may be facilitated by attending occurrences of initial syllables, e.g. the /p^/s in /p^t^k^/.

Normative Data

The normative data in the accompanying table were collected from utterances of 384 children, 24 boys and 24 girls of each age level shown.* The scores represent the time, in seconds consumed in the number of repetitions indicated. The scores from boys and girls were also similar. The scores shown may be used to evaluate responses from either sex.

The analysis of variance of the original data showed no significant differences among different order of the stimuli in the test protocol. On the basis of this, it is suggested that an examiner may follow any order desired, including that shown in the chart.

Background Information

Factors that can profoundly influence rapid, rhythmic execution of such complex motions as those found in speech are neurological damage such as damage to the cerebellum, or basal ganglia, disturbances of peripheral sensory-motor functions, as well as immaturities. Poor performance may be influenced by one of these factors.

Syllable repetition may also be used to help identify subtle disturbances in oral motor control. For example slowness in diadochokinetic syllable rate, especially of polysyllables, has been found to be a significant correlate of speech intelligibility in children with repaired palatal clefts. This procedure can then be used to probe oral motor coordination which may reflect residual impairment of speech structure of function.

[1]Note. See "Time-by-count measurement of diadochokinetic syllable rate", S.G. Fletcher, 1972, Journal of Speech Hearing Research, 15, p. 783-770. Reprinted with permission.

Speech Development Tracking Sheets

The Speech Development Tracking sheets may be helpful when profiling an individual student's language skill levels:

SPEECH DEVELOPMENT TRACKING SHEET
Provo School District

NAME: _____ **SCHOOL:** _____ **BIRTHDATE:** _____

AGE	SPEECH DEVELOPMENT	DATE				
0-3 months	**Birth cry** -- Non-differentiated					
	Reflexive sound making: produces glottal catch and sounds (eh, uh, ah)					
	Vegetative sounds w/ phonation but incomplete resonance					
	Coos and gurgles					
	Begins **blowing bubbles**					
	Definite **stop and start to oral movement**					
	Starts **differentiated crying** (true vocal communication occurs)					
3-6 months	**Babbling begins**: Double syllables -- (VCV aga) Puts lips together—says m Nasal tone is heard					
	Vocalizes pleasure and displeasure					
	Stops vocalizing when adult enters					
	Self-initiated **vocal play**					
	Coos, chuckles, gurgles, and laughs					

SPEECH DEVELOPMENT TRACKING SHEET
Provo School District

NAME: _____ **SCHOOL:** _____ **BIRTHDATE:** _____

AGE	SPEECH DEVELOPMENT	DATE				
	Babbles to self, others, and objects					
	Babbling shows some pitch and inflection change					
	Greater independent **control of tongue**					
6-9 Months	May use **m,n,t,d,b,p,z,** in babbling multiple syllables					
	Babbles in **singing tones**					
	Inflected **vocal play**					
	Repetitive **syllable production**					
	Increased **lip control**					
9-12 Months	**Vocalizes** during play and to mirror					
	Jabbers loudly using most sounds					
	Variegated babbling begins – combines different syllables in vocal play					
	May acquire **first true word** (10-18 months					
1-1 1/2 Years	Uses **jargon** (sentence like intonation)					
	Some **echolalia**					
	Uses vocables –**sound-meaning relationships**					

SPEECH DEVELOPMENT TRACKING SHEET
Provo School District

NAME: _____ **SCHOOL:** _____ **BIRTHDATE:** _____

AGE	SPEECH DEVELOPMENT	DATE				
	Basically **unintelligible except for a few words**					
	Accurately **imitates some words**					
	First words primarily **CV, VC, CVCV reduplicated,** and CVCV					
	Predominance of **m,w,b,p**					
	Elevates tongue tip					
1 1/2- 2 Years	More **words** than jargon—jargon almost gone by 2					
	Asks questions by **raising intonation**					
	Approximately **65% intelligible** by 2 years					
	Starting to use **CVC words**					
2-2 1/2 Years	Approximately **70% intelligible**					
	May **omit final consonants; reduce consonant blends; substitution** of one consonant for another					
2 1/2 – 3 Years	Still some **substitution and distortion of consonants**					
	About **80% intelligibility**					
	About **90%** correct **vowel production**					

SPEECH DEVELOPMENT TRACKING SHEET
Provo School District

NAME: _____ **SCHOOL:** _____ **BIRTHDATE:** _____

AGE	SPEECH DEVELOPMENT	DATE				
3-3 1/2 Years	Uses **final consonants** most of time, still **omits medial consonants** frequently					
	Phonological processes disappearing by age 3: Consonant assimilation Diminutization Doubling Final consonant deletion Prevocalic voicing Reduplication Unstressed syllable deletion Velar fronting					
3 1/2 –4 Years	**98%** of speech is **intelligible**					
	Consonants mastered by age 4: **/b, d, k, g, f, y /**					
	Phonological processes continuing after age 3: Cluster reduction Depalatalization Final devoicing Gliding Stopping Vocalization					
4-4 1/2 Years	**Few omissions and substitutions** of consonants					
	Very intelligible in connected speech					

SPEECH DEVELOPMENT TRACKING SHEET
Provo School District

NAME: _____ **SCHOOL:** _____ **BIRTHDATE:** _____

AGE	SPEECH DEVELOPMENT	DATE				
4 1/2- 5 Years	Most **consonant** sounds used consistently and accurately, but not in all contexts					
	More errors present in difficult **blends**					
5-6 Years	**Intelligibility** of speech is almost **100%**					
	Consonants mastered by age 6: **(t, ng, l)**					
6-7 Years	Consonants mastered by age 7: **(sh, ch, r, v, j, voiceless th)**					
	Blends mastered by age 7: **(dr, cl, bl, gl, tr, st, sl, sw, sp)**					
7-8 Years	Consonants mastered by age 8: **(voiced th, s, z, zh)**					

Sources for Speech Development Tracking Sheets

Development Charts by Pro-Ed

Rosetti's Infant Toddler Language Scale

Pre-School Language Scale – (PLS-3)

"Milestones in Child Development" by Barbara Bain et al

Stuttering and Fluency Evaluation Guidelines

A stuttering/fluency impairment is defined as "an interruption in the flow of speaking, characterized by atypical rate, rhythm, and repetitions in sounds, syllables, words, and phrases. This may be accompanied by excessive tension, struggle behavior and secondary mannerisms. A fluency impairment does not exist when (1) dysfluencies are part of normal speech development, (2) dysfluencies do not interfere with educational performance.

1) Formal Assessment or Informal Assessment:

- Determine which assessment you will administer and use matching rating scale

Stuttering/Fluency

Stuttering Severity Instrument – 4 (SSI-4)
Test of Childhood Stuttering (TOCS)

2) Adverse Effect on Educational Performance:

- Teacher Input Form (must have)
- Parent Input Form (document in comments if not returned)
- Student Input Form as appropriate

Stuttering and Fluency Rating Scale Instructions

1. Determination of a disability in speech fluency can be made through formal tests, informal observation and analysis or descriptive assessment. Two scale options are provided: The use of a published instrument and informal analysis of conversational speech.

2. Option A is to base the severity rating on the student's performance on The Stuttering Severity Instrument IV. A percentile score is used to determine a severity rating.

3. Option B is to complete an informal analysis of the frequency of stuttering behaviors during a language sample. Frequency of stuttering is used to determine a severity rating.

4. Use the Teacher Input Form for stuttering/fluency to assess the adverse affect on educational performance.

5. Circle the score for each row and add them to obtain the **Total Score (TS)** and the corresponding **Final Rating (FR)**.

Total Score: 0-4	No Disability	Final Rating A
Total Score: 8-9	Mild	Final Rating B
Total Score: 10-12	Moderate	Final Rating C
Total Score: 14-16	Severe	Final Rating D

6. When more than one rating scale is used for a student, all the **FRs** should be used to determine a single rating as follows:

   One or more ratings of A = A
   One or more ratings of B = B
   One rating of C = C
   Two or more ratings of C = D
   One or more ratings of D = D

7. The **FR** is used as a tool in determining the need for speech-language services.

   Ratings of A or B: Collected data does not demonstrate the need for specialized services at this time.
   Ratings of C or D: Collected data demonstrates the need for specialized services at this time.

   If indicated, a variance may be applied to the **FR**. (See following page)

8. The comment section may include statements regarding discrepancies among individual tests, subtests, classroom performance and other factors that are relevant to the determination of severity.

Variance in Determining Final Rating

When the **FR** has been determined, professional judgment may be used to add or subtract one rating point after considering the significance and impact of the following factors:

1. History of general and special education standardized testing
   a) standard deviation from the mean
   b) evidence of growth through education
   c) profile of strengths and needs
2. Educational growth
   a) rate of learning
   b) growth profile over time
3. Participation in the general curriculum
4. Progress in the general education curriculum through classroom interventions
5. School history/attendance
6. Consistency of general and/or special education programming
7. Student motivation toward general and/or special education programming
8. Consistent use of general or special education supports
9. Student's attention during instruction

The use of the variance should be considered only during the eligibility meeting so that all team members are able to discuss the factors involved. Document the factors and the rating on the "Determination of Eligibility" form of the IEP document.

Stuttering and Fluency Rating Scale – SSI-4

Student: _____ Date: _____

School: _____ SLP: _____

Stuttering Severity Instrument 4	Score = 0	Score = 4	Score = 6	Score = 8
	Formal assessment reveals that stuttering is within the normal limits; Percentile 1 - 11	Stuttering characteristics are present, but are fleeting and without concomitant behaviors; Percentile 12 - 40	Stuttering characteristics are present and are accompanied by concomitant behaviors; Percentile 41 - 77	Stuttering characteristics are present in majority of speaking situations and are accompanied by concomitant behaviors; Percentile 78 – 99
Adverse Affect on Educational Performance (Social, Emotional, Academic, Vocational)	Score = 0	Score = 4	Score = 6	Score = 8
	Stuttering characteristics do not interfere with the student's participation in educational settings	Stuttering characteristics minimally impact the student's participation in educational settings	Stuttering characteristics interfere with the student's participation in educational settings	Stuttering characteristics seriously limit the student's participation in educational settings
Total Score	**0 1 2 3 4**	**5 6 7 8 9**	**10 11 12**	**13 14 15 16**
Final Rating	**No Disability A**	**Mild B**	**Moderate C**	**Severe D**

Comments:

Stuttering and Fluency Rating Scale – TOCS

Student: _____ Date: _____

School: _____ SLP: _____

Speech Fluency Measure	Score = 0	Score = 2	Score = 3	Score = 4
	Formal assessment reveals that stuttering is within the normal limits;	Stuttering characteristics are present, but are fleeting and without concomitant behaviors;	Stuttering characteristics are present and may be accompanied by concomitant behaviors;	Stuttering characteristics are present in majority of speaking situations and are accompanied by concomitant behaviors;
	Raw Scores 0-8	Raw Scores 9-18	Raw Scores 19-46	Raw Scores >46
Observational Rating Scales	Score = 0	Score = 2	Score = 3	Score = 4
	Stuttering characteristics are within normal limits for student's age and gender	Speech contains some sound, syllable, and/or word repetitions produced without noticeable tension or concomitant behaviors; rate of speech does not interfere with intelligibility	Speech contains sound, syllable, and/or word repetitions or prolongations, and/or silent blocks; concomitant behaviors may be noticeable; rate may interfere with intelligibility	Speech contains a high frequency of sound, syllable and/or word repetitions or prolongations and/or silent blocks; concomitant behaviors are noticeable and frequent; rate significantly interferes with intelligibility
Fluency Rating Consequences Rating	Raw Scores 0-7 and Raw Scores 0-6	Raw Scores 8-16 and Raw Scores 0-6	Raw Scores 17-23 and Raw Scores >6	Raw Scores >23 and Raw Scores >6
Adverse Affect on Educational Performance (Social, Emotional, Academic, Vocational)	Score = 0	Score = 4	Score = 6	Score = 8
	Stuttering characteristics do not interfere with the student's participation in educational settings	Stuttering characteristics minimally impact the student's participation in educational settings	Stuttering characteristics interfere with the student's participation in educational settings	Stuttering characteristics seriously limit the student's participation in educational settings
Total Score	**0 1 2 3 4**	**5 6 7 8 9**	**10 11 12**	**13 14 15 16**
Final Rating	**No Disability A**	**Mild B**	**Moderate C**	**Severe D**

Comments:

Stuttering and Fluency
Teacher Input Form

Student's Name: _____Date: _____

Teacher's Name: _____ Birth Date/Age: _____ /_____

Language spoken at home/school: _____/ _____

This student has been referred for or is receiving stuttering/fluency services. Please answer the following questions to help me gain a better overall view of this student's skills.

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

1. This student:

volunteers to participate in class.	N	S	F	A
is difficult to understand in class.	N	S	F	A
avoids speaking in class.	N	S	F	A
demonstrates frustration when speaking.	N	S	F	A

2. This student stutters when he/she:

speaks to the class.	N	S	F	A
gets upset.	N	S	F	A
shares ideas or tells a story.	N	S	F	A
answers questions.	N	S	F	A
talks with peers.	N	S	F	A
carries on a conversation.	N	S	F	A
reads aloud.	N	S	F	A
talks to adults.	N	S	F	A

3. Check any of the following behaviors you have noticed in this child's speech:

___ revisions (starting and stopping and starting over again)
___ frequent interjections (um, like, you know)
___ word repetitions (we-we-we-)
___ phrase repetitions (and then, and then)
___ part-word repetitions (ta-ta-take)
___ sound repetitions (t-t-take)
___ prolongations (n----------obody)
___ block (noticeable tension/no speech comes out)
___ unusual face or body movements (visible tension, head nods, eye movements)
___ abnormal breathing patterns
___ other _____

4. When this child has difficulty speaking he/she reacts by: _____

5. When this child has difficult speaking, I respond by: _____

6. Has this student been teased or mimicked because of his/her speech? ___ Yes ___ No If yes, please explain: _____

7. How does the student's stuttering affect classroom participation or educational performance?

_____

_____

8. Some questions I have about stuttering or about helping this student be successful in the classroom would be: _____

_____

9. Comments:

_____

Teacher Signature Date

Stuttering and Fluency
Parent Input Form

Student's Name: _____ Date: _____

Parent's Name: _____ Birth Date/Age: _____/_____

Language spoken at home/school: _____ / _____

Your input will help us understand your child's speech skills better.

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

1. My child makes revisions (starting and stopping over again).	N	S	F	A
2. My child uses frequent interjections (um, like, you know).	N	S	F	A
3. My child repeats whole words (we-we-we-).	N	S	F	A
4. My child repeats phrases (and then, and then).	N	S	F	A
5. My child repeats part of words (ta-ta-take).	N	S	F	A
6. My child repeats sounds (t-t-t-take).	N	S	F	A
7. My child prolongs or holds onto a sound (n---------obody).	N	S	F	A
8. My child blocks (noticeable tension – no sound comes out).	N	S	F	A
9. My child makes associated face or body movements to help get the words out (visible tension, head nods, eye blinking, grimacing).	N	S	F	A
10. My child has abnormal breathing patterns.	N	S	F	A
11. My child has vocal tension.	N	S	F	A
12. My child speaks rapidly.	N	S	F	A
13. My child avoids speaking situations.	N	S	F	A
14. My child avoids eye contact.	N	S	F	A
15. My child is frustrated by his/her speech difficulty.	N	S	F	A
16. My child is teased or mimicked because of his/her speech.	N	S	F	A

17. Rate your concern for your child's communication skills.

None 0 1 2 3 4 A lot

18. When did your child first begin to stutter? _____

19. What things seem to help your child's speech? _____

20. What things seem to make your child's speech worse?

21. What situations seem to be the most difficult/stressful for your child? _____

22. Does he/she stutter more during these situations? _____

23. What reaction does your child have when he/she stutters? _____

24. What do you do when your child stutters? _____

25. How do you help your child speak differently or better? _____

26. Has anything changed during the last 6 months or have there been any significant life events (e.g., death, divorce, major illness)? _____

27. Are there any other members of your family that stutter? _____ Who? _____

Please describe their speech: _____

28. Has your child had any previous therapy experiences? _____ If yes, please describe:

_____

29. Is there any other information you think would be helpful?

_____

Parent Signature Date

Stuttering and Fluency
Student Input

Name: _____ Date: _____

Birth Date/Age: _____/____ Grade:_____Teacher: _____

Language spoken at home/school: _____ / _____
Discuss the following questions with the student:

1. Tell me about your speech. _____

_____

2. Tell me what you do when your speech is bumpy. _____

_____

3. Tell me what you think about when your speech is bumpy. _____

_____

4. Is your speech sometimes smooth? When? _____

_____

5. Why do you think your speech is bumpy? _____

_____

6. Can you make your speech smooth or bumpy? How do you make it smooth? _____

_____

7. Has anyone helped you before to speak smoothly? _____

8. Tell me what they did to help you. _____

9. Have other kids ever teased you or said things you didn't like about your speech? _____

10. Do you like to talk in class? _____

11. Do you ever do things to get out of talking in class? What? _____

_____

12. Are you ever embarrassed by your speech in school? When? _____

_____

Stuttering and Fluency
Student Input (Adolescent)

Name: _____ **Date:** _____

Birth Date: _____ Grade/Program: ___ Teacher: _____

Discuss the following questions with the student. You can take notes on the comments lines between questions.

1. Tell me about your speech. _____
2. Who referred you? _____
3. With regard to your stuttering: How often? How long? What does it feel like?

How does it change? _____

_____

4. Tell me about your good speaking times. _____

_____

5. Why do you think you stutter? _____

_____

6. Has anything changed recently? _____

_____

7. Tell me how you spend a typical day. _____

_____

8. When is your speech better or worse? _____

_____

9. Are there some things you do to make your speech more fluent (smooth)? ____

_____

10. Have you been in speech therapy before? If so, where? _____

_____

11. Tell me about your therapy: _____

_____

12. Have other kids ever teased you or said things you didn't like about your speech?

_____

13. Do you like to talk in class? _____
14. Do you ever do things to get out of talking in class? What? _____

_____

15. Are you ever embarrassed by your speech in school? When? _____

_____

Differential Diagnosis of Stuttering and Cluttering

Stuttering	Cluttering
Student is aware of dysfluencies.	Student is unaware of dysfluencies.
Student becomes less fluent when the student concentrates on being fluent.	Speech becomes more fluent when student concentrates on being fluent.
Spontaneous speech may be more fluent than oral reading or directed speech.	Spontaneous speech may be less fluent than oral reading or directed speech.
Speech is usually less fluent with strangers.	Speech is usually more fluent with strangers.
Structured retrials may not result in increased fluency.	Structured retrials may improve fluency.
More sound and syllable repetitions are present.	Fewer sound and syllable repetitions are present.
Fewer language problems (e.g., incomplete phrases, reduced linguistic complexity, etc.) are present.	More language problems are present.
Speech rate may be normal when dysfluencies are omitted from speech rate calculations.	Speech rate may be produced at a very rapid “machine gun” rate.
Fewer articulation errors are present.	Multiple articulation errors may be present.

Developmental Norms for Rate of Speech

Preschoolers (Pindzola, Jenkins, & Lokken, (1989)[1]

Age	Range in Syllables per Minute
3 years	116 - 163
4 years	117 - 183
5 years	109 - 183

Child Syllable Rates (Culatta, Page, & Wilson (1987)[2]

Age (years)	Mean in Syllables per Minute	Range in Syllables per Minute	SD
3.0 – 3.11	157.21	96.84 – 198.36	26.28
4.0 – 4.11	168.72	141.70 – 215.66	19.71
5.0 – 5.11	158.84	98.33 – 206.85	27.21
6.0 – 6.11	169.38	114.16 – 217.58	27.78
7.0 – 7.11	172.57	117.02 – 213.15	24.83

School Age Children (Peters & Guitar (1991)[3]

Age	Range in Syllables per Minute
6 years	140 – 175
8 years	150 – 180
10 years	165 – 215
12 years	165 – 220

Adolescents and Adults (Andrews & Ingham (1971)[4] & (Johnson, Darley & Spriestersbach (1971)[5]

Adolescent/Adult Speech Rates	Range in Words per Minute	Range in Syllables per Minute
Speaking Rates	115 – 165	162 – 230
Reading Rates	150 – 190	210 – 265

[1]Note. See "Speaking rates of young children," by R. Pindzola, M. Jenkins, and K.Lokken,1989, Language, Speech, 20, p. 133-138. Reprinted with permission.

[2]Note. See Speech rates of normally communicative children, 1987, *American Speech-Language and Hearing Association's Annual Convention,* New Orleans, LA. Reprinted with permission.

[3]Note. *See Stuttering: An Integrated approach to its nature and treatment*, by T.J. Peters, B. Guitar, 1991*,* Baltimore: Williams and Wilkins. Reprinted with permission.

[4]Note. See "Stuttering considerations in the evaluation of treatment", by G. Andrew, and R. Ingham, 1971, British Journal of Communication Disorders, 6, p. 129-138. Reprinted with permission.

[5]Note. See *Diagnostic methods in speech pathology*, by W. Johnson, F.L. Darley, and D.C. Spriensterbach, 1978, Darley, F.L. New York: Harper & Row. Reprinted with permission.

Voice Evaluation Guidelines

A voice impairment is the abnormal production and/or absence of vocal quality, pitch, loudness, resonance, and/or duration which is inappropriate for an individual's age and/or gender. A voice impairment does not exist when vocal characteristics (1) are the result of temporary physical factors, such as allergies, colds, enlarged tonsils and/or adenoids, or short term vocal misuse or abuse, (2) are the result of regional, dialectic or cultural differences, (3) do not interfere with educational performance.
The American Speech-Language-Hearing Association (ASHA) recommends that individuals receive a medical examination and medical clearance from contraindicating physical problems prior to participating in voice therapy.

1) Informal assessment/observation:

- Elicit/observe verbal activities such as spontaneous conversation, picture description, imitated sentences, recited passages, counting, and perform other tasks outlined on the Quick Screen For Voice. Refer to accompanying definitions for guidelines in judging appropriateness of characteristics observed. Record observations relating to respiration, phonation, resonance, and nonverbal vocal range and flexibility on Quick Screen For Voice form.

- Complete the PSD Oral Peripheral Evaluation

- Transfer information gathered on the Quick Screen for Voice to the Buffalo III Voice Profile rating tool.

- If a rating of 2 or higher is received on the voice abuse item, then observe the student in several different situations and complete the Buffalo III Voice Abuse Profile rating tool. This information will help determine Adverse Affect on Educational Performance.

- Transfer the rating information from the Buffalo III Voice Profile rating tool to the Voice Rating Scale in the areas of Pitch, Intensity, Quality, and Resonance.

- Administer the IOWA Pressure Articulation Test to children with cleft palate to assess levels of intra-oral pressure related to velopharyngeal function as appropriate

Voice Tests

Buffalo III Voice Profile/ Buffalo III Voice Abuse Profile
Quick Screen For Voice
IOWA Pressure Articulation Test

2) Adverse Effect on Educational Performance:

- Buffalo III Voice Profile (if completed)
- Teacher Input Form (must have)
- Parent Input Form (document in comments if not returned)
- Student Input Form as appropriate

3) Medical Examination and Medical Clearance

- If the student qualifies for voice services then it is highly recommended that all students with voice disorders be examined by a physician, preferably in a specialty appropriate to the presenting complaint (i.e., ENT). The examination may occur before or after the voice evaluation by the Speech-Language Pathologist. It is recommended that medical clearance from contraindicating physical problems be obtained before student receives voice therapy.

- If there is not adequate medical information available prior to the assessment and the student qualifies for voice services then

    - Share information from Appendix D "Your Child's Voice" when discussing evaluation results
    - Complete the Voice Referral Form
    - Enclose the Parent and Teacher Input Forms
    - Enclose a signed HIPAA Form
    - Enclose a Physician Response Form

- If there is adequate medical information prior to the assessment share information with referring physician as appropriate

Definitions of the Variables Used in the Quick Screen for Voice[1]

Respiration

Inhalatory stridor or expiratory wheeze: Sound heard on inhalation or exhalation, indicating an obstruction at some point in the airway that creates airflow turbulence

Limited breath support for speech: Failure to create a sufficient amount of air to support connected utterances; frequent need to replenish the breath supply; typically, failure to inspire beyond the tidal breathing range

Infrequent breath; talking too long on one breath: Failure to replenish breath often, or failing to take sufficient breaths so that utterances extend beyond end-tidal breathing into the expiratory reserve

Reduced loudness or vocal weakness: Soft voice, or one that sounds fatigued, possibly due to diminished respiratory support

Phonation

Rough or hoarse quality: Quality deviation of the voice reflecting aperiodic vibration of the vocal folds during phonation

Breathy quality: Quality deviation of the voice reflecting a larger than normal glottal opening, allowing excessive airflow through the vocal folds during phonation

Vocal strain and effort: Tension, strain, and/or effort needed to speak; this may include difficulty imitating or maintaining phonation, and may also include supporting evidence of visible neck or jaw tension

Aphonia: Absence of voicing, which may be intermittent or constant; may occur as voice "cutting out" or whisper, and can be accompanied by apparent strain, tension, or effort

Persistent glottal fry: Rough, low-pitched voice quality that often occurs at the end of sentences, reflecting tightly approximated vocal folds with flaccid edges vibrating at a low fundamental frequency

Hard glottal attacks: A manner of initiating voicing characterized by rapid and complete adduction of the vocal folds prior to the initiation of phonation

Conversational pitch is too high or too soft: Relative to the speaker's age and sex, the voice is maintained at an inappropriate average fundamental frequency

Conversational voice is too loud or too soft: Relative to speaker's age and sex, the voice is maintained at an inappropriate average intensity

Conversational voice is limited in pitch or loudness variability: The voice lacks normal variations in fundamental frequency or intensity, leading to reduction in pitch or loudness variations; monopitch or monoloudness may be considered the extremes

Resonance

Hyponasality: Reduction in nasal resonance during the production of nasal consonants /m, n, ng/, reflecting blockage in the nasopharynx or the entrance to the nasal cavity

Consistent mouth breathing: Open-mouth posture; the need to breathe through the mouth because of possible nasal airway obstruction

Nasal turbulence or audible nasal emission: Also called nasal rustle, nasal turbulence is friction heard as air pressure is forced through a partially opened velophrayngeal valve; audible nasal emission, also called nasal air escape, is inappropriate airflow through the nose during speech, typically occurring on high pressure consonants because of velopharyngeal dysfunction; either characteristic may be a consonant-specific learned behavior

Hypernasality: Sound entering the nasal cavity during production of vowels or liquid consonants due to velopharyngeal dysfunction, resulting in excessive acoustic nasal resonance

Juvenile resonance characteristics: Child-like quality to the voice; often accompanied by high pitch and abnormal tongue posture, giving the voice an immature sound, usually seen in teenage girls and women

Nonverbal Vocal Range and Flexibility

Habitual pitch and loudness task: Relative to the speaker's age and sex, the appropriateness o pitch or loudness during a sustained vowel is noted

Maximum phonation time task: The length of maximum phonation time is noted; norms are provided by age category to help the examiner decide whether or not MPT is within normal limits

Pitch range task: Ability to vary the pitch of the voice, and the presence of voice breaks during the gliding activity, are noted; the pitch range increases with age from approximately one-half octave for preschool children to over two octaves for adults

[1]Note. See "Quick screen for voice and supplementary documents for identifying pediatric voice disorders," by L. Lee, J.C. Stemple, L. Glaze, L. N. Kelchnerr, 2004, Language, Speech, and Hearing Services in Schools, 35, p, 308-319. Reprinted with permission.

Quick Screen For Voice[1]

Name: _____ Birthdate/Age: _____ / ____

Speech-Language concerns/services : _____

Hearing concerns/status: _____

Pertinent medical and social history: _____

_____

Directions: The Quick Screen for Voice should be conducted in a quiet area. Elicit verbal activities, such as spontaneous conversation, picture description, imitated sentences, recited passages, counting, and other natural samples of voice and speech, or perform the tasks requested. The screening test is failed if one or more disorders in production are found in any area, indicating that a more thorough evaluation is needed.

Mark all observations that apply, as the individual produces connected speech:

Respiration

____ Inhalatory stridor or expiratory wheeze
____ Infrequent breaths; talking too long on one breath
____ Limited breath support for speech
____ Reduced loudness or vocal weakness
____ Normal respiration for speech

Phonation

____ Rough or hoarse quality
____ Vocal strain and effort
____ Persistent glottal fry
____ Conversational pitch is too high or too low
____ Conversational voice is limited in pitch or loudness variability
____ Breathy quality
____ Aphonia
____ Hard glottal attacks
____ Conversational voice is too loud or too soft
____ Normal voice quality

Resonance

____ Hyponasality (observed during humming, nasal consonant contexts: Mommy makes me muffins; Man on the moon; Many men make money, etc.)
____ Consistent mouth breathing
____ Hypernasality (observed during vowel and oral consonants
____ Nasal turbulence or audible nasal emission (observed during pressure consonant contexts: Counting from 60 to 69; Popeye plays baseball; Give Kate the cake; Buy Bobby a puppy; Take a ticket to Daddy; etc.
____ Juvenile resonance characteristics
____ Normal Resonance

Nonverbal Vocal Range and Flexibility

Model the series of nonverbal tasks that are described on the test form. Multiple trials are allowed. Visual cues such as hand gestures, moving a toy car across that table (for maximum phonation time) or up and down a hill (for pitch range), etc. may be used to supplement the auditory model.

1. Habitual pitch and loudness task: "Count from 1 to 10. Repeat, but stop at 'three' and hold out the /i/."

   ____ Abnormal pitch and/or loudness

   ____ Normal pitch and loudness

2. Maximum phonation time (MPT) task: "Take your biggest breath and hold out an /a/ as long as possible."

   ____ Number of seconds /a/ sustained

   ____ MPT less than:

Age (years)	Normal Mean in Seconds (Range)*
3	7 (3-11)
4	9 (5-15)
5	10 (5-16)
6-7	13 (5-20)
8-9	16 (5-29)
10-12	20 (9-39) Males 16 (5-28) Females
13-17	23 (9-43) Males 20 (9-34) Females
18+	28 (9-62) Males 22 (6-61) Females

   ____ MPT within normal limits

3. Pitch range task: "Make your voice go from low to high like this (demonstrate upward pitch glide on the word 'whoop'). Now go down from your highest to low (demonstrate rapid downward pitch glide like a bomb falling)." Or, model and elicit a fire siren sound.

   ____ Little pitch variation
   ____ Voice breaks in pitch glides up or down

   ____ Acceptable pitch range and flexibility

Other Comments or Observations: _____

_____

* MPT values are related to age and height; multiple attempts also influence results. Data summarized from Kent, Kent, & Rosenbek (1997).

[1]Note. See *Quick Screen for Voice*, by L. Lee, J. C. Stemple, & L. Galze, in press, Gainesville, FL: Communicare Publishing. Copyright 2003 by Communicare. Reprinted with permission.

Oral-Peripheral Examination

Name: _____ Date: _____

Date of Birth: _____ Examiner: _____

(✓ if typical; Circle abnormalities and describe:)

STRUCTURE	APPEARANCE	MOBILITY
Lips	Symmetry Strength Cleft or Repair Drooling	Pucker Smile Close lips, puff cheeks Bite lower lip Say /p/, /b/, /m/
Tongue	Symmetry Strength Size Surface Frenulum	Protrude Tip up/down Tip left/right Wag right/left quickly Tip to hard palate, draw back Typical swallow Tongue thrust
Oral Cavity Teeth Hard Palate Soft Palate Tonsils Uvula	 Missing, Orthodontics Cleft, Repair, Height, Width Symmetry, Movement Enlarged, Absent Deviation, Bifid, Swollen	 Say "aah" "aah" "aah" Yawn
Jaw	Symmetry Stability Overjet Underjet	 Stable with tongue wag, lift "Clicks" on open/shut Lateral shifts
Breathing	Mouth breathing Nasal congestion Poor breath control	
Voice	Intensity, Pitch, Quality, Breathiness, Gurgles, Resonance	

DIADOCHOKINESIS (one breath)
(✓ if typical; Circle abnormalities and describe:)
L (Labored), A (Arrhythmic), I (Inaccurate)

puh	L	A	I
tuh	L	A	I
kuh	L	A	I
puh-tuh	L	A	I
puh-kuh	L	A	I
tuh-kuh	L	A	I
puh-tuh-kuh	L	A	I

Comments:

Instructions for the Buffalo III Voice Profile

The Buffalo III Voice Profile is a rating tool that the SLP should complete after or during the voice assessment. The profile scales consist of five equal-appearing intervals. Twelve aspects of the voice are rated: laryngeal tone, pitch, loudness, nasal resonance, oral resonance, breath supply, muscles, voice abuse, rate, speech anxiety, intelligibility, and an overall voice rating. A rating of 1 indicates that the aspect is normal, while a rating of 5 indicates that the aspect is very severe. For speech intelligibility, a rating of 1 corresponds to 100% intelligibility and percentages are dispersed in 25% increments, so that a rating of 5 indicates 0% intelligibility.

Instructions for the Buffalo III Voice Abuse Profile

The Buffalo III Voice Profile should be completed prior to using the abuse profile. Children who receive a rating of 2 or higher on the voice abuse item should have the abuse profile completed. Eleven common types of voice abuse and an overall rating are included in the profile. Observation of the student in several different situations is recommended and the parents may rate their child's vocal activities. Older children and teens may rate themselves. The ratings increase from 1 (normal) to 5 (very severe) depending on the frequency of use and vigor with which the abuse is occurring.

The following definitions can be used by SLPs for the voice abuses:

Shouting, yelling, screaming, cheering-- extremely loud, sometimes reaching 90-100 dB; sudden sharp, loud cry; harsh high tones

Loud talking-- 90-100 dB when measured 18 inches from the speakers mouth

Excessive talking-- talking a lot during the day and night; 3 times more talkative than peers

Abrupt glottal attack-- an explosive release of vocalization; buildup of pressure followed by a sudden release of sound

Reverse Phonation-- vocalizing on the intake of air; often seen during play or imitating sounds

Throat clearing and coughing-- habitual, excessive, and hard coughing and throat clearing

Talking in noise-- talking in the presence of high level noise, such as when listening to music, riding in automobiles or on sport machines, and when around garden and farm equipment

Loud whispering-- high air pressure and air flow may produce muscle tension in the face and neck

Strained vocalizations-- vocal imitations of vehicles and other sounds

Explosive vocalization-- built up air pressure in the subglotttic area with the vocal chords tightly closed, followed by a sudden opening of the cords during forceful vocalization

Wilson, D.K. (1987). *Voice problems in children,* 3rd edition, Baltimore, MD: Williams & Wilkins.

Buffalo III Voice Profile
Voice Problems of Children[1]

Name: _____ Birth Date: _____ Age:_____ Gender:___

Rater: _____ Date: _____ Time of Day: _____ Place: _____

Collect a speech sample and rate the following aspects of the student's voice.

Severity Rating

	Normal	Mild	Moderate	Severe	Very Severe
Laryngeal Tone	1	2	3	4	5
Breathy					
Harsh					
Hoarse					
Pitch	1	2	3	4	5
Too high					
Too low					
Loudness	1	2	3	4	5
Too loud					
Too soft					
Nasal Resonance	1	2	3	4	5
Hypernasal					
Hyponasal					
Oral Resonance	1	2	3	4	5
Throatiness					
Breath Supply	1	2	3	4	5
Amount					
Muscles	1	2	3	4	5
Hypertense					
Hypotense					
Voice Abuse	1	2	3	4	5
Amount and degree					
Rate	1	2	3	4	5
Too fast					
Too slow					
Speech Anxiety	1	2	3	4	5
Amount and degree					
Speech Intelligibilty	100%	75%	50%	20%	0%
Overall Voice Rating	1	2	3	4	5

Summary/Comments:

[1]Note. See *Voice Problems in Children*, 3rd edition. Baltimore, MD: Williams & Wilkins. Reprinted with permission.

Buffalo III Voice Abuse Profile[1]

Name: _____ Birth Date/Age: _____/ ___ Gender: _____

Rater: _____ Date: _____Time of Day: __ Place: _____

Collect a speech sample and rate the following aspects of the student's voice.

Severity Rating

	Normal	Mild	Moderate	Severe	Very Severe
Shouting, Yelling, Screaming, Cheering	1	2	3	4	5
Loud Talking	1	2	3	4	5
Excessive Talking	1	2	3	4	5
Loud Whispering	1	2	3	4	5
Strained Vocalizations	1	2	3	4	5
Explosive Vocalizations	1	2	3	4	5
Abrupt Glottal Attack	1	2	3	4	5
Reverse Phonation	1	2	3	4	5
Throat Clearing	1	2	3	4	5
Coughing	1	2	3	4	5
Talking in Noise	1	2	3	4	5
Overall Voice Rating	1	2	3	4	5

Comments:

Three Major Voice Abuses:

1. _____
2. _____
3. _____

[1]Note. See Wilson, D.K. (1987). *Voice problems in children*, 3rd edition. Baltimore, MD: Williams & Wilkins. Reprinted with permission.

IOWA Pressure Articulation Test

The Iowa Pressure Articulation Test measures sounds and words in order of decreasing discrimination levels. This test should be used with cleft palate children to assess levels of intra-oral pressure related to velopharyngeal function.

These sounds are listed in sequence beginning with those needing the most intra-oral pressure (1, 2) and progressing to those needing the least intra-oral pressure (8). Information obtained from administration may aid in selection of target sounds for remediation. Sounds are shown according to position in word, e.g. initial /s-/, medial /-s-/, and final /-s/.

Level	Sounds	Words
1	/s-, sk-/	sun, skates
2	/-k-, sm-, -sm, sn-, str-/	pocket, smoke, possum, snowman, string
3	/sh-, -z-, -k-, st-/	shoe, scissors, cracker, stairs
4	/-s-, -sh-, kr-/	dresses. dishes, crayons
5	/-g-, -s, sp-, tr-, gr-, -g-, -k, -pt, kl-, gl-, -mps/	wagon, mouse, spoon, tree, grass. tiger, fork, stopped, clown, glasses, stamps,
6	/k-, g-, -g, -sh, j-, -sh-, bl-, -ks/	cat, girl, dog, fish, jump, washer, blocks, socks
7	/-k, br-, dr-, tw-/	truck, bread, drum, twins
8	/t-,-f-, -f, -p-, pl-, -lf/	two, telephone, knife, paper, planting, wolf

Adapted from the following sources:
From *Voice problems in children, 3rd ed,* by D. K. Wilson, 1987. Baltimore, MD: Williams & Wilkins. Used with permission.

Voice Rating Scale Instructions

1. Circle the appropriate scores for each of the five categories: Pitch intensity, quality, resonance, and adverse affect on educational performance.

2. Determination or ratings for the parameters of voice should be based on observation of voice in connected speech as well as during specific tasks appropriate for voice assessment using the Quick Screen For Voice. Results of assessment should then be transferred to the Buffalo III Voice Profile to estimate the severity of each parameter prior to determining the severity on the voice rating scale.

3. Use the Teacher Input Form for voice to assess the adverse affect on educational performance. The Buffalo III Voice Abuse Profile can also be used.

4. Circle the score for each row and add them to obtain the **Total Score (TS)** and the corresponding **Final Rating (FR).**

Total Score: 0-4	Non Disabled	Final Rating A
Total Score: 5-8	Mild	Final Rating B
Total Score: 9-12	Moderate	Final Rating C
Total Score: 13-16	Severe	Final Rating D

5. When more than one rating scale is used for a student, all the **FRs** should be used to determine a single rating as follows:

One or more ratings of A = A
One or more ratings of B = B
One rating of C = C
Two or more ratings of C = D
One or more ratings of D = D

6. The **FR** is used as a tool in determining the need for speech-language services.

Ratings of A or B: Collected data does not support the need for specialized services at this time.
Ratings of C or D: Collected data demonstrates the need for specialized services at this time.

If indicated, a variance may be applied to the **FR.** (See following page)

7. The comment section may include statements regarding discrepancies among individual tests, subtests, classroom performance and other factors that are relevant to the determination of severity.

Variance in Determining Final Rating

When the **FR** has been determined, professional judgment may be used to add or subtract one rating point after considering the significance and impact of the following factors:

1. History of general and special education standardized testing
   a) standard deviation from the mean
   b) evidence of growth through education
   c) profile of strengths and needs
2. Educational growth
   a) rate of learning
   b) growth profile over time
3. Participation in the general curriculum
4. Progress in the general education curriculum through classroom interventions
5. School history/attendance
6. Consistency of general and/or special education programming
7. Student motivation toward general and/or special education programming
8. Consistent use of general or special education supports
9. Student's attention during instruction

The use of the variance should be considered only during the eligibility meeting so that all team members are able to discuss the factors involved. Document the factors and the rating on the "Determination of Eligibility" form of the IEP document.

Voice Rating Scale

Student: **Date:**

School: SLP:

Pitch	Score = 0	Score = 1	Score = 2	Score = 3
	Pitch within normal limits; Buffalo III Voice Profile Rating – 1	Pitch noticeably different but intermittent; does not distract or interfere with communication; Buffalo III Voice Profile Rating - 2	Pitch persistently too high or low, inappropriate to age/gender, interferes with communication; Buffalo III Voice Profile Rating - 3	Pitch persistently different and/or inappropriate to age/gender and greatly interferes with communication; Buffalo III Voice Profile Rating – 4-5
Intensity	Score = 0	Score = 1	Score = 2	Score = 3
	Intensity within normal limits; Buffalo III Voice Profile Rating – 1	Intensity is noticeably different, but intermittent; does not distract or interfere with communication; Buffalo III Voice Profile Rating – 2	Intensity persistently too loud, soft or dysphonic; inappropriate to situations, interferes with communication; Buffalo III Voice Profile Rating – 3	Intensity persistently too loud, soft or dysphonic; inappropriate to situations, greatly interferes with communication; Buffalo III Voice Profile Rating – 4-5
Quality	Score = 0	Score = 1	Score = 2	Score = 3
	Quality within normal limits; Buffalo III Voice Profile Rating – 1	Quality noticeably different, but intermittent; does not distract or interfere with communication; Buffalo III Voice Profile Rating – 2	Quality persistently hoarse, breathy, tense, strident or contains other abnormal attributes, inappropriate for age/gender; interferes with communication; Buffalo III Voice Profile Rating - 3	Quality persistently hoarse, breathy, tense, strident or contains other abnormal attributes, inappropriate for age/gender; greatly interferes with communication; Buffalo III Voice Profile Rating – 4-5
Resonance	Score = 0	Score = 1	Score = 2	Score = 3
	Resonance within normal limits; Buffalo III Voice Profile Rating - 1	Resonance noticeably different, but intermittent; does not distract or interfere with communication; Buffalo III Voice Profile Rating - 2	Resonance persistently different and inappropriate; interferes with communication; Buffalo III Voice Profile Rating – 3	Resonance persistently different and inappropriate; greatly interferes with communication; Buffalo III Voice Profile Rating – 4-5
Adverse Affect on Educational Performance (Social, Emotional, Academic, Vocational)	Score = 0	Score = 2	Score = 3	Score = 4
	No interference with the student's participation in educational settings	Minimal impact on the student's participation in educational settings	Interferes with the student's participation in educational settings	Greatly interferes with the student's participation in educational settings
Total Score	**0 1 2 3 4**	**5 6 7 8**	**9 10 11 12**	**13 14 15 16**
Final Rating	**No Disability A**	**Mild B**	**Moderate C**	**Severe D**

Voice
Teacher Input Form

Student's Name: _____Date: _____

Teacher's Name: _____ Birth Date/Age: _____/ ____

Language spoken at home/school: _____/ _____

Please help me gain a better overall view of this student's voice skills by completing the information below.

Does your student have difficulty with the following:
Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

1. Is this student able to speak loudly enough to be adequately heard in your classroom? N S F A
2. Does this student appear to avoid talking or reading aloud in your classroom? N S F A
3. Is there a decrease in the student's vocal quality during the day (e.g., sounding hoarse, raspy)? N S F A
   If so please describe:_____
   _____
4. Does this student use an unusually loud voice or shout a great deal in your classroom? N S F A
5. Does this student engage in an excessive amount of throat clearing or coughing? N S F A
6. Does it appear to disturb the other student's concentration or listening? N S F A
7. Do the student's voice characteristics detract from what he/she is saying? N S F A
8. Has this student ever mentioned to you that he/she thinks he/she has a voice problem or shown embarrassment? N S F A
9. Have the parents of this student ever talked to you about this student's voice? N S F A
10. Do other students comment about this student's voice? N S F A

How do your student's voice difficulties impact him/her academically, socially, emotionally and/or vocationally? _____
_____

Comments:

_____
Teacher Signature Date

Voice
Parent Input Form

Student's Name: _____ Date: _____

Parent's Name: _____Birth Date/Age: _____ / ____

Language spoken at home/school: _____/_____

Does your child have difficulty with the following:
Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always) and provide additional information as needed.

Does your child's voice sound like that of other family members?	N	S	F	A
Does your child complain about ear aches or have ear infections?	N	S	F	A
Does your child have and/or complain about having a sore throat?	N	S	F	A
Does your child have allergy symptoms?	N	S	F	A
Does your child have chronic colds or upper respiratory infections?	N	S	F	A
Does your child breathe through his/her mouth?	N	S	F	A
Does your child snore while sleeping?	N	S	F	A
Does your child's voice sound strained when speaking?	N	S	F	A
Does your child's voice sound hoarse?	N	S	F	A
Does your child seem short of breath when speaking?	N	S	F	A
Does your child's voice sound like it is coming through his/her nose?	N	S	F	A
Does your child's voice sound like he/she has a stuffy nose?	N	S	F	A
Does your child's voice sound worse in the morning?	N	S	F	A
Does your child's voice sound worse in the evening?	N	S	F	A
Does your child lose his/her voice?	N	S	F	A
Does your child speak more loudly than necessary?	N	S	F	A
Does your child speak too quietly?	N	S	F	A
Does your child use a pitch that is unusual for his/her age or gender?	N	S	F	A
Does your child speak in a monotone?	N	S	F	A
Does your child's voice cut in and out when he/she is speaking?	N	S	F	A
Does your child cough or clear his/her throat?	N	S	F	A
Does your child have problems swallowing?	N	S	F	A
Does your child have heartburn or acid indigestion?	N	S	F	A
Does your child use tobacco products?	N	S	F	A
Does your child consume caffeinated drinks?	N	S	F	A
Does your child consume alcoholic beverages?	N	S	F	A
Does your child argue, yell, or play loud games?	N	S	F	A
Does your child participate in sports that include shouting?	N	S	F	A
Does your child attend loud social events (parties, concerts, games)?	N	S	F	A
Does your child participate in choral groups, cheerleading, or choir?	N	S	F	A
Is your child exposed to environmental factors like dust, mold, kerosene fumes, wood or cigarette smoke?	N	S	F	A
Is your child frustrated/embarrassed by his/her speech difficulty?	N	S	F	A

Is there a history of cleft palate, head/neck/throat injury, or intubation? Yes __ No__

If yes, please describe:

_____

Parent Signature Date

Voice
Student Input Form

Student's Name: _____Date: _____

Teacher's Name:_____ Birth Date/Age: _____

Language spoken at home/school:_____/_____

Please help me gain a better overall view of your voice skills by completing the information below.

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

1. Are you concerned about your voice being hoarse, raspy or

   nasal? If so, please describe \

   _____
2. Do you lose your voice often? If so, please describe

   _____
3. Do you participate in activities that require you to use a loud voice such as cheerleading or sports?
4. Are you ever embarrassed by your voice? _____

   _____
5. Do other people comment about your voice?
6. Rate our voice in the following situations:

	Better	Worse
Morning	_____	_____
Afternoon	_____	_____
Evening	_____	_____
Weekend	_____	_____
Spring	_____	_____
Summer	_____	_____
Winter	_____	_____
Fall	_____	_____
Home	_____	_____
School	_____	_____

7. Do you participate in the following activities or behaviors? Check all that apply.

___ Sports that include shouting
___ Cheerleading
___ Excessive yelling/screaming
___ Talking loudly
___ Excessive talking or arguing
___ Clearing your throat or coughing a lot
___ Choir or singing
___ Exposure to allergens, e.g., dust, pollen, fumes, smoke, etc.
___ Cigarette smoking
___ Drug Use
___ Alcohol Use

8. How does your voice difficulty impact you academically, socially, emotionally, and/or vocationally? _____

_____

_____

Student Signature Date

APPENDIX D. YOUR CHILD'S VOICE

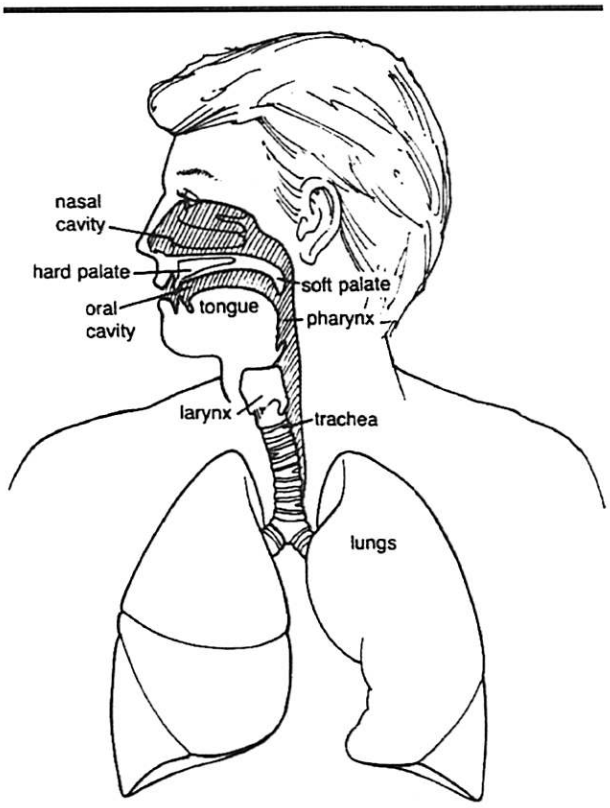
Your child has been identified as having a **voice disorder**, meaning that his/her voice sounds different from that of other children of the same age and sex. The purpose of this pamphlet is to provide you with information about the cause, diagnosis, and management of voice disorders.

How Is Voice Produced?

Figure 1 contains the primary structures in the vocal tract. The larynx is a system of cartilages, muscles, and ligaments in the neck (pharynx). It sits on top of trachea, the passageway to the lungs. The passageway to the stomach is behind the larynx and trachea. The larynx is covered when we swallow, so food does not enter the trachea.

The larynx contains thin membranes, called vocal folds. The vocal folds sit in an open position during breathing. When a person wants to speak, muscles close the folds, and air from the lungs causes them to vibrate. The sound the vocal folds make then resonates through the mouth (or nose, for some sounds) and speech is created. The combination of breathing, vibrating the vocal folds, and shaping or resonating the vibration creates the distinct sound you recognize as your child's voice. A problem with any part of the voicing process may lead to a voice disorder.

Figure 1. The vocal tract.



How Might a Voice Disorder Affect a Child's Education?

The effects of a voice disorder may decrease the child's ability to interact effectively in the classroom setting. Speech may be difficult to hear or understand, and the child may be less likely to participate in daily educational activities, such as volunteering answers or reading aloud. A childhood voice disorder may also decrease the potential for developing a normal adult voice.

What Are Common Causes of a Voice Disorder?

Laryngeal pathologies are changes in the larynx and vocal folds that are associated with voice disorders. Many factors contribute to the development of laryngeal pathologies, including **voice misuse, medical problems,** and **personality-related issues.** Each of these is described below.

Voice Misuse
The majority of laryngeal pathologies are due to the way a child misuses the voice. Children often engage in loud talking, screaming, or shouting, such as at sports events. They may enjoy making vocal noises during play, imitating motorcycles, action figures or monsters. Habits such as these may harm young voices. Excessive coughing or throat clearing may also damage the vocal folds.

Sometimes children learn to speak in an incorrect manner, such as using a very low pitch level. Or, the child may be so eager to communicate that he/she does not pause for enough breaths to support the voice.

The vocal folds are covered by a thin layer of mucous membrane, somewhat similar to the lining of the cheek. If a child drinks caffeinated soft drinks and little water, this membrane can become dry. Other sources of dryness may be exposure to smoke, dust, or dehumidified air.

The examples presented are habits that may cause irritation to the vocal folds. Constant irritation may lead to vocal fold changes, such as swelling (edema), redness, or callous-like growths called vocal nodules.

Medical Causes
Some children develop voice disorders because of a medical problem. An infant may be born with structural defects of the larynx. Neurologic problems, such as vocal fold paralysis, can occur. Chronic upper respiratory or other viral infections, allergies, and gastrointestinal disorders are other examples of medical problems that may lead to laryngeal pathologies. The larynx may be damaged during an accident or surgery. Finally, some medications have side effects that may contribute to changes in vocal fold vibration.

A resonance problem is a special category of voice disorders related to how the sound travels through the oral and nasal cavities after it leaves the larynx. The hard palate separates the two cavities, and the soft palate acts like a valve to open or close the nasal area. The sound should resonate in the oral cavity for all vowels and consonants except *m, n,* or *ng,* which resonate in the nasal cavity. A resonance imbalance occurs when the sound takes the wrong path, or when the sound is distorted due to a problem encountered as it travels through the cavity. For example, if a child sounds like he/she has a cold (hyponasality), it may be due to a blockage somewhere between the nose and mouth. Enlarged adenoids are one common cause of hyponasality. If sound is heard coming through the nose when it should not be present

(hypernasality or nasal turbulence), there may be an incomplete closure of the soft palate. Children born with a cleft palate are among those who may develop resonance problems.

Personality-Related Causes
The larynx is very sensitive to emotions. Therefore, a child's voice disorder may be due to the way he or she feels, physically and emotionally. For example, a child experiencing overall tension because of anxiety encountered in school or at home may also tense the muscles that control the voice, and this can lead to a voice disorder. Occasionally, difficulties in the child's life may become so severe that he/she may unconsciously develop a voice disorder in an attempt to avoid the stressful situation. Other types of voice disorders are related to personality development or hormonal changes during puberty.

How Will I Know the Cause of *My* Child's Voice Disorder?

It is important to note that no one can tell the cause of a voice disorder by the way a child sounds. A child with a vocal nodule caused by yelling and screaming can have the same voice characteristics as the child with a laryngeal pathology due to a medical problem. In order to determine the cause of your child's voice problem, the vocal folds must be examined.

Who Will Examine My Child, and How Will It Be Done?

Although some primary-care physicians will examine the vocal folds, most refer the child to an Ear, Nose and Throat specialist (ENT). Another name for an ENT is an **otolaryngologist**. The otolaryngologist will determine the presence and cause of any **laryngeal pathology.**

The otolaryngologist may view the vocal folds by one of several methods. Some physicians place a small mirror in the child's mouth to visualize the folds. Others use a small flexible scope inserted into the child's nose. This procedure is called nasendoscopy, and it can also be used to examine a child with a resonance problem. A third method, called videostroboscopy, involves placing a small video-scope in the child's mouth. When attached to a special instrument called a stroboscope, the vocal folds can be viewed during their vibration. Both nasendoscopy and videostroboscopy provide a view of the vocal folds or other structures on a television monitor.

None of the procedures used to examine the child with a voice disorder is harmful, and children tolerate them well. Sprays may be used to temporarily numb the nose or back of the throat to eliminate any mild discomfort.

Some otolaryngologists work in collaboration with **speech-language pathologists** who specialize in voice disorders. The speech-language pathologist (SLP) will determine the effect of the laryngeal pathology on **voice production.** The SLP in your child's school may have already conducted a voice evaluation.

What if the Otolaryngologist's Exam Is Not Covered by My Insurance, or I Cannot Afford It?

Most private insurance, managed care plans, and Medicaid cover the costs of diagnostic procedures. To determine coverage of your specific insurance, you are encouraged to discuss this issue with the provider-relations representative. Should your insurance be one of the few that does not cover this examination, you may negotiate a reasonable payment plan with most otolaryngology offices. The speech-language pathologist at your child's school may also provide information about funding sources.

How Will My Child's Voice Disorder Be Corrected?

Methods of correcting your child's voice disorder depend entirely upon the cause. Treatment may be managed through voice therapy provided by a speech-language pathologist, medical management provided by an otolaryngologist, or a combination of the two.

Because the cause of a voice disorder cannot be determined by the characteristics of the voice, the speech-language pathologist in your child's school cannot conduct voice therapy until a physician provides a medical diagnosis. Parents know their child's vocal habits and are sometimes convinced the problem is due to misuse. As an example, they may feel the voice disorder will simply go away if the child stops screaming. Unfortunately, the most vocally-abusive child may have a coexisting medical condition requiring medical management. **For the child's protection, the American Speech-Language-Hearing Association's Preferred Practice Patterns (1997) require medical examination prior to voice therapy.**

Most **voice problems due to misuse or abuse** can be eliminated through voice therapy. The child learns to eliminate the causes of the voice problem and ways to change the manner of speaking. Vocal exercises or other activities may be combined with learning healthy vocal habits to eliminate the problem and prevent future recurrence.

Medically-caused voice problems are typically managed through medication or surgery. Sometimes voice therapy is needed after medical intervention.

The speech-language pathologist, working closely with you and other individuals in the child's life, often manages **personality-related voice problems.** Sometimes a psychologist or classroom teacher is included in the therapy process.

Where Can I Find More Information About Voice Disorders?

Many resources exist to provide information about voice disorders. The speech-language pathologist at your child's school and the otolaryngologist will have suggestions specific to your child's voice disorder. Textbooks about voice disorders are available through university or medical libraries.

The American Speech and Hearing Association is a national organization serving all individuals with communication disorders. For information, call 1-800-498-2071, or use the address http://www.asha.org on the Internet.

The Following Information Is Specific to My Child

_____

_____

Voice Referral Form

General Information

Student's Name:_____ Gender:____ Birth Date: _____

Address: _____ Parent's Name: _____

School: _____ Grade: ____ Date: _____

Speech-Language Pathologist Name: _____

Speech-Language Evaluation Results (completed by SLP)

Reason for referral: _____

Student's complaint: _____

Clinical Impressions: Rate each attribute (**1**=Normal, **2**=Mild Impairment, **3**= Moderate Impairment, **4**= Severe Impairment, and **X**=Not Observed).

Quality (breathy, hoarse, harsh) _____
Pitch (too high/too low) _____
Nasal resonance (hypo/hyper/mixed) __
Loudness (too soft/too loud) _____
Pitch breaks _____
Glottal attack (hard/soft) _____

Muscle tension _____
Oral resonance _____
Phonation breaks _____
Breathing pattern _____
Abusive vocal behaviors _____

Maximum phonation time: /a/= _____ seconds
s/z ratio (maximum /s/= _____ seconds/maximum /z/= _____ seconds):

Brief description of voice (e.g., onset pattern, variations, impact on communication, student's level of awareness and motivation for possible therapy). Include relevant oral-peripheral and hearing screening/evaluation results.

_____

Speech-Language Pathologist Signature Date

Enclosures:

_____ Parent Input Form
_____ Teacher Input Form
_____ Physician Response Form
_____ HIPAA Form

Physician Response to Voice Referral
(To be completed by a licensed physician)

What is the physical condition of the patient's larynx?_____

_____

_____

Are there any abnormal growths/edema on any part of the vocal mechanism? Yes/No

If so, please specify type and location _____

_____

Are there vocal fold asymmetries during phonation? Yes/No

If so, please describe _____

_____

Is there evidence of inadequate velopharyngeal function? Yes/No

If so, please describe _____

Are there any obstructions in the nasal passages? Yes/No

If so, please describe _____

_____

Is there presence of any sinus infection or nasal allergy? Yes/No

During phonation did the vocal folds exhibit normal amplitude? Yes/No

Is there evidence of excessive muscular tension during phonation? Yes/No

How were the vocal folds visualized during the examination? _____

What is your medical diagnosis?_____

_____

Are there any contraindications for voice therapy? Yes/No

How may the Speech-Language Pathologist best contact you for consultation if needed?
(HIPAA enclosed)

Phone # _____ E-mail _____

_____

Examining Physician's Signature Date

Please return this form to _____ (at fax) _____or
address_____

Thank you.

PROVO CITY SCHOOL DISTRICT

Release of Information Authorization

Student Name:_____
Last First MI (Other)

Date of Birth:_____/_____/_____ Phone #:_____-_____-_____

☐ I authorize _____ FAX:_____-_____-_____

to release information to:

Name: **PROVO CITY SCHOOL DISTRICT**

Address:

City:

Information to be Released:

☐ All Medical Records ☐ Other (Specify)_____

☐ History and Physical Exam ☐ Immunization Records

☐ Psychological/Psychiatric Testing

Purpose of Disclosure: _____

1. I understand this authorization expires 6 months after signed.
2. I understand that I may revoke this authorization at any time by notifying organization in writing and that it will be effective on the date written notice is received (except to extent of action taken prior to receiving written notice).
3. I understand that information used or disclosed related to this authorization may be subject to re-disclosure by the recipient and no longer be protected by Federal Privacy Regulations.
4. By authorizing this release of information, I understand that my health care and payment for health care will not be affected.
5. I understand that I may have a copy of the information described on this form and a copy of this form after I have signed it.

☐ Parent/Legal Guardian has received a copy of this form.

_____ _____
Signature of Parent/Legal Guardian Date Witness Date

FOR OFFICE USE ONLY

Date request completed and sent: _____
School District person sending request: _____
Date records received: _____

Provo City School District • 280 West 940 North • Provo, Utah 84604-3394 •
(801) 374-4800 • FAX (801) 374-4808 • www.provo.edu

Voice Conservation Index for Children[1]

Name: _____ Birth Date/Age: _____/_____
Gender: _____

Please answer by circling: A (All the time), M (Most of the time), H (Half of the time), O (Once in a while), or N (Never).

When I get a cold, my voice gets hoarse.	A	M	H	O	N
After cheering at a ball game, I get hoarse.	A	M	H	O	N
When I'm in a noisy situation, I stop talking because I think I won't be heard.	A	M	H	O	N
When I in a noisy situation, I speak very loudly.	A	M	H	O	N
At home or at school, I spend a lot of time talking every day.	A	M	H	O	N
Outside, I like to talk to people who are far away from me.	A	M	H	O	N
When I play outside with my friends, I yell a lot.	A	M	H	O	N
I lose my voice when I don't have a cold.	A	M	H	O	N
People tell me I talk too loudly.	A	M	H	O	N
People tell me I never stop talking.	A	M	H	O	N
I like to talk.	A	M	H	O	N
I talk on the phone.	A	M	H	O	N
At home, I talk to people who are in another room.	A	M	H	O	N
I like to make car or other noises when I play.	A	M	H	O	N
I like to sing.	A	M	H	O	N
People don't listen to me unless I talk loudly.	A	M	H	O	N

[1]Note. See "Vocal abuse behaviors in young children," by R. D. Sangia, M. F. Carlin, 1993, Language, Speech, and Hearing Services in the Schools, 24, 2, p. 79-83. Reprinted with permission.

Easy Talking and Voice Rules

Name: _____ Date: _____

1. Slow down
2. Talk with your lips and say every sound.
3. Start words in a gentle, easy way.
4. Flow your words together-- smooth, not choppy.
5. Do not yell or raise your voice.
6. Do not clear your throat or talk a lot.
7. Do not sing or try to imitate voices from TV or movies.

Vocal Hygiene Recommendations

No shouting.

Avoid smoky environments.

Use modified singing and vocal play.

Sleep with warm steam vaporizer nearby.

Sip warm, steaming water or juice throughout the day.

Suck on a glycerin lozenge. Avoid menthol and eucalyptus.

Allow for quiet times throughout the day. No talking! No whispering!

Minimize coughing and throat clearing. Instead, swallow & clear throat with air.

Don't speak over noise.

Vocal rest after periods of singing or other prolonged vocalization.

Cover nose and mouth with scarf in cold weather.

Use easy phonatory initiation-soft, breathy voice.

Use a daily behavior chart to reduce abusive vocal behaviors.

Use a system of reinforcement to encourage desired behaviors.

Share information with parents, therapists, teachers, and others involved in your care.

Author Unknown

Vocal Abuse Reduction Agreement[1]

I. Introductory Statement

The outcome of voice therapy is in your hands. The best vocal techniques are fruitless unless they are used with fully rested and functioning vocal folds. This can only be achieved through a reduction of vocal use and absence of vocal abuse.

II. Overall Goal of Therapy

You will reduce use and abuse through a short-term intensive vocal reduction agreement.

A. Informed of peak vocal abuse situations
    1. Acknowledged
    2. Reduced
B. Informed of vocal use time
    1. Acknowledged
    2. Reduced
C. Instructed in vocal behavior modification
    1. Vocal intensity decreases
    2. Appropriate word initiation/breathy approach as opposed to harsh vocal attack
    3. Appropriate use of available air supply . . . not forcing words at the end of a breath

III. Objectives

A. Not talk for PLANNED periods of time during daily activities
    1. This does not include sleeping, showering, studying, etc.
    2. If need arises for communication during these times, use of a breathy voice is required
B. Reduce situations where there is difficulty in not talking
    1. Lunch time with friends . . . listen more than talk or sit with more people so less talking is expected
    2. In general, the time spent with friends needs to be monitored closely and changed if it is a problem situation.
C. To keep a voice tape denoting success in reduction of abuse and use of voice
    1. This is a daily log and should include the date and time of the recording.
    2. The selected reading should be completed every morning and evening. After the evening recording a specific description on vocal use/abuse of that day should be included. This tape should be brought to each therapy session.

IV. Specific Guidelines

A. From wake-up time to the time of the first class at school, NO vocal use is allowed. This will be explained to family members so that they can be supportive of your efforts.
B. NO speaking unless the other person is within touching distance. NO shouting from room to room.
C. DO NOT carry on conversations:
    1. Across a crowd, stage, large room, etc.
    2. In the presence of high noise levels:
        a. TV set
        b. Stereo/radio/orchestra/band
        c. Car
        d. Other people
        e. Appliances (e.g., mixer, sweeper, blender)

D. Telephone conversations should be limited to one two-minute call per day. An egg timer is an excellent way to monitor and limit this period.
E. There may be NO uses of funny voices, yelling, shouting, sound effects, reading aloud, singing or other abusive activities.
F. While in the cafeteria, talking is permitted only when it is necessary.
G. NO auditions for any vocal part until voice therapy is completed.
H. Monitor vocal abuses with a counter at three specified times during the day:
   1. In the hall between classes
   2. In the car
   3. At mealtime

   These should be recorded on a chart daily. Any comments should be written beside the tally.
I. ABSOLUTELY NO yelling at siblings.
J. After-school activities must be monitored and discussed at each therapy session. If excessive vocal use is apparent, more specific guidelines may be formed.
K. If at any time a sore throat, allergies or other throat ailment occurs, all talking is prohibited.

V. Time Line

To be implemented beginning _____ (date) and continuing for 4 weeks, depending on progress and follow-through of guidelines. If there are no apparent vocal use changes through the time line, it will be discussed at the end of the 4-week period.

I, _____, have read the above agreement and understand the necessity of the guidelines and the probable outcomes. I wish to comply with these guidelines and continue to work on the reduction of vocal use/abuse.

_____
(Date)

[1]Note. See "Reducing vocal abuse," by K. W. Burk and L. E. Brenner, 1991, Language Speech and Hearing Services in Schools, 22, p. 173-178. Reprinted with permission.

LSHSS

Clinical Forum

Quick Screen for Voice and Supplementary Documents for Identifying Pediatric Voice Disorders

Linda Lee
University of Cincinnati, OH
Joseph C. Stemple
Blaine Block Institute for Voice Analysis and Rehabilitation, Dayton, OH
Leslie Glaze
University of Minnesota, Minneapolis
Lisa N. Kelchner
University of Cincinnati, OH

Voice is the product of a combination of physiologic activities, including respiration, phonation, and resonance. A voice disorder is present when a person's quality, pitch, and loudness differ from those of a person's of similar age, gender, cultural background, and geographic location, or when an individual indicates that his or her voice is not sufficient to meet daily needs, even if it is not perceived as deviant by others (Colton & Casper, 1996; Stemple, Glaze, & Klaben, 2000).

ABSTRACT: Three documents are provided to help the speech-language pathologist (SLP) identify children with voice disorders and educate family members. The first is a quickly administered screening test that covers multiple aspects of voice, respiration, and resonance. It was tested on 3,000 children in kindergarten and first and fifth grades, and on 47 preschoolers. The second document is a checklist of functional indicators of voice disorders that could be given to parents, teachers, or other caregivers to increase their attention to potential causes of voice problems and to provide the SLP with information pertinent to identification. The final document is a brochure with basic information about voice disorders and the need for medical examination. It may be used to help the SLP educate parents, particularly about the need for laryngeal examination for children who have been identified as having a voice problem.

KEY WORDS: voice disorders, screening voice, voice assessment, pediatric voice disorders

The incidence of voice disorders in children is often estimated at between 6% and 9% (Boyle, 2000; Hirschberg et al., 1995). However, other sources identify ranges of 2% to 23% (Deal, McClain, & Sudderth, 1976; Silverman & Zimmer, 1975). In one study, 38% of elementary school-aged children were identified as having chronic hoarseness (Leeper, 1992). Unfortunately, it is estimated that the vast majority of children with voice disorders are never seen by a speech-language pathologist (SLP; Kahane & Mayo, 1989), and children with voice disorders only make up between 2% and 4% of an SLP's caseload (Davis & Harris, 1992).

Few studies have identified the type of laryngeal pathologies that are most common to children. Dobres, Lee, Stemple, Kretschmer, and Kummer (1990) described the occurrence of laryngeal pathologies and their distribution across age, gender, and race in a pediatric sample. Data were collected on 731 patients seeking evaluation or treatment at a children's hospital otolaryngology clinic. The most frequent laryngeal pathologies were subglottic stenosis, vocal nodules, laryngomalacia, functional dysphonia, and vocal fold paralysis. For the total sample, these

0161–1461/04/3504–0308

pathologies were much more common in males than in females, with the youngest patients (less than 6 years old) identified as having the most pathologies. The distribution of pathologies within the races sampled (Caucasian, African American, and Asian) was similar to that found throughout the total sample.

Although it has been argued by some that treating voice disorders in children is unnecessary or even potentially harmful (Batza, 1970; Sander, 1989), others have argued for the opposite opinion (Kahane & Mayo, 1989; Miller & Madison, 1984). Indeed, Andrews (1991) suggested that unlike some other developmental disorders, maturation alone does not significantly affect vocal symptoms. Habitual patterns of poor voice use do not, as some have suggested, disappear at puberty. In other words, children do not outgrow voice disorders.

The identification and management of pediatric voice disorders is important for the child's educational and psychosocial development, as well as physical and emotional health. The underlying cause of any dysphonia must be determined because voice disorders that share the same quality deviations may have vastly different behavioral, medical, or psychosocial etiologies (see review in Stemple et al., 2000).

The majority of children with voice problems are identified by individuals other than the school SLP (Davis & Harris, 1992). Typically, the teacher, nurse, or a family member notices that a child has developed an abnormal voice quality and makes the initial contact with the SLP. These referral sources lack training in making perceptual quality judgments, so they may miss more subtle problems that need professional attention. Depending on the task, teachers may or may not be accurate in identifying children with voice deviations (see review in Davis & Harris, 1992), and many parents may assume that the child will outgrow the disorder. Perceptual voice quality evaluation can be difficult even for the SLP (Kreiman, Gerratt, Kempster, Erman, & Berke, 1993; Kreiman, Gerratt, Precoda, & Berke, 1992), so depending on untrained persons to identify these children is less than ideal.

One common method of identifying childhood communication disorders is through mass screening. Unfortunately, voice has received scant attention in most speech and language screening tools. For example, the Fluharty-2 Preschool Speech and Language Screening Test (Fluharty, 2001) has one line for clinician response to voice quality ("sounded normal; recheck may be necessary"). Similarly, one line for description of the voice is allotted on the Speech-Ease Screening Inventory (Pigott et al., 1985). These conventional one-line summaries fail to address the voice comprehensively; that is, they do not assess the three subsystems of respiration, phonation, and resonance. Voice problems are typically reduced to a generic description of quality deviation and may easily be overlooked because of such minimal opportunity for evaluation.

Identification of children with voice disorders could be facilitated with several documents. A screening tool covering multiple aspects of voice, respiration, and resonance could replace the more general voice evaluation statements that are provided on current screening tools. Additionally, a checklist of functional indicators of voice disorders in children and adolescents that could be given to parents, teachers, or other caregivers may increase their attention to potential causes of voice problems and provide the SLP with information pertinent to identification. Finally, a brochure with basic information about voice disorders and the need for medical examination may help the SLP educate parents. These needs are addressed in the present document.

QUICK SCREEN FOR VOICE

A screening tool entitled Quick Screen for Voice (see Appendix A) was developed by the second author (JS). It provides more thorough delineation of tasks and measures than the more open-ended requests for observation of voice quality that are currently available on speech and language screening tests. The tool may be used for speakers of all ages, from preschool through adult.

Respiration, phonation, resonance, and vocal flexibility are the hallmarks of healthy and acceptable voice production, and all are included in this test. These subsystems of voice production are assessed separately. Lists of perceptual characteristics that are commonly associated with disorders of that subsystem are contained in each section. Definitions of each perceptual characteristic are provided in Appendix B.

The protocol is designed to be administered in 5 to 10 min. Administration time is reduced when the child's voice is judged to be normal. When abnormal signs are found in any subsection, the test form provides appropriate language for vocal behaviors that the SLP may not observe or identify without it. These identifiers can then be used when reporting findings and generating individualized educational plan (IEP) goals, if a management program is necessary.

Directions and Scoring

The Quick Screen for Voice should be administered in a quiet area that is free of distractions. The tester should be seated close to the individual.

Perceptual characteristics of the voice are judged by listening to the individual speak. Therefore, the examiner should engage the individual in topics, such as family or friends, hobbies or other interests, favorite holidays or vacations, favorite classes in school, and so on. To assist elicitation of spontaneous speech, the individual may be asked to tell a story about pictures that are sufficiently detailed to allow a 2–3 min description or elicited sample. Recited passages, counting, or other natural samples of continuous speech may also be used.

The examiner responds to a checklist of observations that are made during the spontaneous speech and other voicing tasks. The speaker fails the screening test if one or more disorders in production are found in any section. In such cases, the individual would be scheduled to be screened again, have a more comprehensive voice evaluation, or be referred to a physician with a request that the child be examined by an otolaryngologist or other specialist.

Field Tests and Subsequent Revisions

The screening tool was used during two formal mass speech and language screenings with preschool and school-age children, and more informally with adult graduate students taking a voice disorders class. The primary purpose of using the tool in these situations was to determine its ease and clarity of use, whether or not it contained complete lists of observations under each category, and confirmation of the criterion for passing or failing.

Screening of kindergarten and first and fifth grade students. The Quick Screen for Voice was used as part of a comprehensive speech, language, and hearing screening of 3,000 elementary school children in 53 school districts throughout Ohio. Half of the children were in regular kindergarten and first grade; half were in fifth grade. The school districts were chosen because they represented a wide variety of urban, rural, and suburban locations; average family income; percentage of minority population; and district expenditure per pupil. Students receiving part-time special education services were included. Students receiving full-time special education in segregated classes or separate buildings were omitted from the sample. Seven university departments participated. The screening tests were administered by trained graduate students under the supervision of licensed and certified SLPs. The students practiced administering the tests before conducting the screening.

The percentage of students failing the total screening test and each subcategory is contained in Table 1. Some individuals who fail screening tests will be found by more intensive diagnostic tests not to have a communication disorder (i.e., a false positive). Conversely, some students with a communication disorder may pass a screening, although the incidence of these false negatives is expected to be low if examiners are trained and tests are properly administered. The actual number of false positives and false negatives resulting from the mass screening is not known. Therefore, the percentage of students failing the screening was adjusted by factors that would correct for both false positives and false negatives by using the Delphi technique (Linstone & Turoff, 1975; Rothwell & Kazanas, 1997; Woudenberg, 1991). This procedure involves a series of steps to elicit and refine the perspectives of a group of people who are experts in the field. The first step was selection of the panel (in this case, a group of individuals in academic and clinical settings with extensive knowledge about similar tests and their outcomes). The second step was to survey the panel members to obtain their predictions of test outcome based on their knowledge about the current literature. The estimates were analyzed using descriptive statistics such as mean and median. If the estimates were close to each other, the values were used. If the estimates were not close, the results were cycled back to the panel members, who were asked to reconsider their answers. Respondents who were relatively far off from the average figures were asked to explain why they kept their original response, if they decided to do so.

False positives were calculated as a ratio of the number of students without a voice disorder who were incorrectly classified as having failed the test, over the total number of students failing the test. False negatives were calculated as a ratio of the number of students with a voice disorder who were incorrectly classified as having passed the test, over the total number of students passing the test. Because the actual number of false positives and false negatives was not known, the numbers used in the ratios were based on expert panel predictions. The panel first adjusted the observed scores for false positives, and then made an additional adjustment for both false positives and false negatives, combined. These percentages are contained in Table 1.

Table 1. Results of administration of the Quick Screen for Voice to 3,000 students, half in kindergarten and first grade and half in fifth grade. The total percentage failed, percentage by subcategories of the test, and percentage after Delphi adjustment are presented. Individual percentages do not add up to the total percentage because it is possible that a child could have more than one item checked in each area.

	Percentage failing	*After Delphi adjustment for false positives*	*After Delphi adjustment for false positives and false negatives*
Grades K and 1			
Total	34.5	23.3	19.7
Respiration	17.4	11.3	9.6
Phonation	10.2	8.0	7.1
Resonance	3.3	3.9	2.0
Range/flexibility	29.1	17.0	15.3
Grade 5			
Total	20.9	18.1	14.1
Respiration	6.6	5.9	4.0
Phonation	7.5	6.5	5.6
Resonance	1.8	2.1	1.1
Range/flexibility	13.8	11.3	9.4

The percentage of actual failures (34.5% for kindergarten and first grade; 20.9% for fifth grade) was higher than most previous reports in the literature (Boyle, 2000; Deal et al., 1976; Hirschberg et al., 1995; Silverman & Zimmer, 1975). The percentage of children failing the present voice screening was consistent with the results of the concurrent speech and language screenings, which were also considered high (16.9%, 3.2%, and 1.2% of kindergarten and first graders, and 13.5%, 2.6%, and 1.1% of fifth graders failed language, articulation, and fluency, respectively). Overall, 39.2% of kindergarten and first graders and 29.5% of fifth graders failed all language, articulation, fluency, voice, and hearing screening, even after Delphi adjustment for false positives.

It should be noted that the highest percentages of failures on the Quick Screen for Voice were in the category of vocal range and flexibility. On the version of the tool used in the mass screening, habitual pitch, pitch inflection, loudness effectiveness, and loudness variability were based on clinician judgment of these parameters during conversational speech. The authors suspected that the failure rate on this subtest may have been inflated because of difficulty with judging these particular parameters during conversation,

especially because the parameters were not defined. Therefore, specific tasks to demonstrate pitch and loudness were substituted for the more subjective judgments. Habitual pitch and loudness are determined by having the child count from 1 to 10, repeat, but stop at "three" and hold out the /i:/. A maximum phonation time (MPT) task was also added to this section. The changes in the tool may lower the percentage of failures on this subtest.

Screening of preschool children. The second revision of the Quick Screen for Voice followed screening of 47 children (25 boys; 22 girls; ages 3–6 years) in a Head Start program at Arlitt preschool in Cincinnati, Ohio. None of the children who participated in this screening had been previously diagnosed with a voice disorder. Four trained graduate students completed the testing.

Results revealed that 19% (9 out of 47) of the participants failed the initial screening. Six were boys; three were girls. Subjects failed because of abnormalities in the areas of respiration (n = 1), phonation (n = 4), and resonance (n = 4). No abnormalities were found in the category of nonverbal vocal range and flexibility. The 4 subjects who failed the initial screening because of resonance disturbance passed the second screening. The examiners had noted signs of a cough and nasal congestion upon initial examination, and these problems apparently resolved before the second test. The remaining 5 subjects retained the characteristics found on the initial screening and failed the second screening.

In order to determine intrajudge reliability, one examiner gave the test a second time to 5 subjects who passed the screening test and the 4 subjects who failed the phonation section. The second test was administered a week following the first, and the results of the initial test were not available to her. Interjudge agreement was measured by having two of the graduate students independently test 5 subjects who failed any portion of the screening test and 6 subjects who passed it. Both intrajudge reliability and interjudge agreement were excellent (100% for each measure). Finally, all subjects who failed the initial screening were tested again 5 months later. No intervention was provided between screening tests. The 5 subjects who failed the second screening also failed the third.

Final version of the tool. Clinicians participating in both the preschool and school-age screenings provided feedback to the authors about their experiences with the screening tool. Suggestions for improving directions, ease of use, and lists of observations under each category were incorporated into subsequent revisions, all of which were considered minor. The clinicians agreed with the pass/fail criterion provided a second screening was considered for any child who demonstrated signs of illness, such as congestion resulting from an upper respiratory infection.

FUNCTIONAL INDICATORS OF VOICE DISORDERS IN CHILDREN AND ADOLESCENTS

The identification of children with voice disorders in the schools does not rely on annual screening of every child. Although policies differ across districts, the usual practice is to screen only certain grades each year. Some evidence exists that teachers can be a reliable referral source if they are asked to make a gross dichotomous judgment (refer/do not refer) and if they are encouraged to overrefer if in doubt (Davis & Harris, 1992).

The Functional Indicators Checklist (Appendix C) is an informal probe that is designed to detect evidence of consistent voice differences that can represent a potential voice disorder resulting from underlying medical, voice use, or emotional factors. The checklist uses symptoms or situational-based judgments that are identifiable to parents, teachers, and other caregivers of children and adolescents. The specific probe items are nonstandardized, and there is no critical number of positive signs that suggest a need for further referral. Rather, the "yes/no" format is intended to summarize an inventory of impressions about the speaker's ability to use effective voice in the "real world."

The checklist items were derived from the authors' experience with common case history questions that are useful in signaling a potential *threat* to voice quality. The probes are intended to "operationalize" specific judgments of voice production and quality. For example, rather than querying abstract constructs related to voice loudness or endurance, a representative functional indicator was selected and was related directly to academic interference, which is a key qualification standard for service in the schools (e.g., "Can't be heard easily in the classroom when there is background noise"). Because information is sought about vocal competence, as well as overall speaker confidence in the functional communicative environment, probe items were included to assess the emotional impact of voice differences (e.g., "Doesn't like the sound of his/her own voice" or "Is teased for the sound of his/her voice").

The Functional Indicator Checklist is a quick and easy supplement that may cross-validate the other Quick Screen judgments made for voice production. For example, the item "Voice sounds worse after shouting, singing, or playing outside" will provide the screener with information about variability and potential voice use factors that may support audio-perceptual judgments of vocal instability. Although the checklist is meant to be a supportive adjunct to the Quick Screen, it may also be used as a follow-up survey.

Finally, the Functional Indicators Checklist can lend support to any future treatment plans if the real world ties to communication needs are sufficiently meaningful to children and adults. A child may certainly not care about the pitch, loudness, or quality of his or her vocal signal, but may respond more willingly to goals that are designed to create a voice that is loud enough to call a play on the baseball field, or answer a question from the back of the class, or doesn't hurt or sound "scratchy" at the end of the day. These and other functional voice connections can inform the treatment process and provide direct applications to generalization and treatment outcome measures.

YOUR CHILD'S VOICE

"Your Child's Voice" (see Appendix D) is a document that was developed to help SLPs educate the parent of a

child who has been identified with a voice disorder. It was developed in response to comments to the authors by a number of otolaryngologists that parents had only a vague sense of why they were instructed to bring their child for evaluation. SLPs have limited time to provide information to parents, and parents tend to retain more of the information if it is supplemented in writing. Lack of parental follow-up on the SLP's request for laryngeal examination by a physician is a primary concern of school-based clinicians (Leeper, 1992). The American Speech-Language-Hearing Association Preferred Practice Patterns for the Profession of Speech-Language Pathology (1997) states:

> All patients/clients with voice disorders must be examined by a physician, preferably in a discipline appropriate to the presenting complaint. The physician's examination may occur before or after the voice evaluation by the speech-language pathologist. (Section 12.7)

"Your Child's Voice" provides some basic information about how voice is produced; how a voice disorder might affect a child's education; and common causes of voice disorders, including voice misuse, medical problems, and personality-related issues. This is followed by an explanation of purpose and procedures of the voice evaluations conducted by the otolaryngologist and SLP. The importance of medical examination is emphasized, and some suggestions are provided for circumstances where the otolaryngology examination is not covered by insurance. A section about various types of management is provided, along with resources for more information. It is suggested that the SLP conclude the document with some information specific to the voice problem of the child in question.

The Functional Indicators Checklist and "Your Child's Voice" documents have not been tested formally. However, they have been used by many SLPs who attended previous presentations by the authors. Informal feedback has been very positive.

ADDITIONAL CONSIDERATIONS: ETIOLOGIES WITH LOWER INCIDENCE

Etiologies with lower incidence than those due to vocal misuse or abuse may also be identified through the use of the Quick Screen for Voice and the Functional Indicators Checklist. There are increasing numbers of children in special and regular education who have extensive medical problems that may result in voice disorders or laryngeal pathologies. With advancements in the field of neonatology, the numbers of medically fragile babies now surviving and being served by the public school system are increasing. For example, the number of premature babies born in the United States has increased significantly over the past 20 years according to recent reports. Currently, close to 12% (460,000) of babies born annually are premature (defined as < 37 weeks gestation) (Barrett, 2002). These children may be at higher risk for developmental, learning, and academic special needs; however, they are also more likely to have required multiple medical procedures in infancy that can result in injury to the larynx. Such procedures can include multiple and/or traumatic intubations, routine deep suctioning, and/or tracheotomy. Furthermore, coexisting conditions of severe gastroesophageal reflux, pulmonary compromise, multiple medications, and/or chronic dysphagia may result in altered laryngeal and subsequent phonatory function.

Laryngeal/phonatory sequelae may coexist with multiple and/or chronic medical conditions, or in some instances, laryngeal injury may be the only remnant of a previously medically fragile child's history (for more information, see Woodnorth, 2004). Whenever vocal symptoms are present (e.g., voice sounds weak or strained, uses a lot of effort to talk, complains of vocal fatigue) in students with a complicated medical history, the SLP should consider requesting a further laryngeal/voice evaluation. Occasionally, the vocal symptoms indicate a previously undetected laryngeal pathology, such as vocal fold paralysis or laryngeal joint fixation. Etiologies underlying vocal fold paralysis are neurological and may result from disorders of the central nervous system or cranial nerve ten (vagus). Laryngeal joint fixation occurs when the regular position of a cricoarytenoid joint is dislocated secondary to some type of trauma. In either case, if the immobile vocal fold remains in a close to midline position, voice symptoms may be minimal. However, an immobile vocal fold may migrate from its original resting position, resulting in a change to voice quality. These vocal symptoms may worsen through elementary and teenage years as the larynx grows.

Increasingly, the relationship between medically fragile infant conditions and later success in primary and secondary education is being studied. Most investigations focus on the correlation between early health difficulties and later speech, language, intellectual, and academic performance. There are those that specifically examine early pulmonary compromise with later pulmonary function, which in turn can influence phonatory function (Doyle et al., 2001; Gross, Iannuzzi, Kveslis, & Anbar, 1998; Lewis et al., 2002). However, few studies have investigated chronic laryngeal impairment and associated voice disorders in the medically fragile child.

CONCLUSION

The literature suggests that the vast majority of children with voice disorders are never evaluated by an SLP (Kahane & Mayo, 1989). To rectify this situation, SLPs must be prepared to use their knowledge, listening training, and interpersonal skills to intervene. Educating the classroom teacher and families about indicators that put children at risk for laryngeal pathologies may make those with the closest child contact more reliable referral sources. If screening is warranted, the SLP may find the Quick Screen for Voice preferable to the more typical one-line response to voice quality deviation, because it encompasses all aspects of voice production (respiration, phonation, resonance, and vocal range and flexibility). The descriptors for vocal behaviors used in the test may also be helpful when reporting findings or writing IEP goals. Finally, the

obstacle of receiving medical clearance for therapy typically requires educating the parent and, occasionally, the primary care physician. "Your Child's Voice" can be used as a supplement to the parent conference.

Although voice disorders have a lower incidence than many other types of communication disorders, all SLPs recognize their responsibility to use their knowledge, listening training, and interpersonal skills to identify and manage these children. The authors hope that the documents provided here will improve clinician intervention while reducing the time demands inherent in an increasingly complex profession.

ACKNOWLEDGMENTS

The authors would like to thank Chase Striby, MA, for coordinating administration of the Quick Screen for Voice for the preschool children and Ann Glaser, MS, for her input from the statewide elementary school screening.

REFERENCES

American Speech-Language-Hearing Association. (1997). *Preferred practice patterns for the profession of speech-language pathology*. Rockville, MD: Author.

Andrews, M. (1991). *Voice therapy for children.* San Diego, CA: Singular.

Barrett, J. (2002). Environmental links to early deliveries. *Environmental Health Perspectives, 110*, 78–79.

Batza, E. (1970). Vocal cord nodules in children: Pathogenesis, clinical manifestations, therapy. *Clinical Pediatrics, 9,* 14–16.

Boyle, B. (2000). Voice disorders in school children. *Support for Learning*, *15*, 71–75.

Colton, R., & Casper, J. K. (1996). *Understanding voice problems* (2nd ed). Baltimore: Williams & Wilkins.

Davis, C. N., & Harris, T. B. (1992). Teacher's ability to accurately identify disordered voices. *Language, Speech, and Hearing Services in Schools, 23*, 136–140.

Deal, R., McClain, B., & Sudderth, J. (1976). Identification, evaluation, therapy, and follow-up for children with vocal nodules in a public school setting. *Journal of Speech and Hearing Disorders*, *41*, 390–397.

Dobres, R., Lee, L., Stemple, J., Kretschmer, L., & Kummer, A. (1990). Description of laryngeal pathologies in children evaluated by otolaryngologists. *Journal of Speech and Hearing Disorders, 55,* 526–532.

Doyle, L. W., Cheung, M. M., Ford, G. W., Olinsky, A., Davis, N. M., & Callanan, C. (2001). Birth weight <1501 g and respiratory health at age 14. *Archives of Disease in Childhood*, *84*, 40–44.

Fluharty, N. B. (2001). *Fluharty-2 Preschool Speech and Language Screening Test*. Austin, TX: Pro-Ed.

Gross, S. J., Iannuzzi, D. M., Kveslis, D. A., & Anbar, A. D. (1998). Effect of pre-term birth on pulmonary function at school age: A prospective controlled study. *Journal of Pediatrics, 133*(2), 188–192.

Hirschberg, J., Dejonckere, P., Hirano, M., Mori, K., Schultz-Coulon, H., & Vrticka, K. (1995). Symposium: Voice disorders in children. *International Journal of Pediatric Otorhinolaryngology*, *32*(Suppl.), 109–125.

Kahane, J., & Mayo, R. (1989). The need for aggressive pursuit of healthy childhood voices. *Language, Speech, and Hearing Services in Schools*, 20, 102–107.

Kent, R. D., Kent, J. F., & Rosenbek, J. C. (1987). Maximum performance tests of speech production. *Journal of Speech and Hearing Disorders, 52*, 367–387.

Kreiman, J., Gerratt, B. R., Kempster, G. B., Erman, A., & Berke, G. S. (1993). Perceptual evaluation of voice quality: Review, tutorial, and a framework for future research. *Journal of Speech and Hearing Research*, *36*, 21–40.

Kreiman, J., Gerratt, B. R., Precoda, K., & Berke, G. S. (1992). Individual differences in voice quality perception. *Journal of Speech and Hearing Research, 35*, 512–520.

Leeper, L. H. (1992). Diagnostic examination of children with voice disorders: A low cost solution. *Language, Speech, and Hearing Services in Schools, 23*, 353–360.

Lewis, B. A., Singer, L. T., Fulton, S., Salvatore, A., Short, E. J., Klein, N., et al. (2002). Speech and language outcomes of children with bronchopulmonary dysplasia. *Journal of Communication Disorders*, *35*, 393–406.

Linstone, H., & Turoff, M. (1975). *The Delphi method: Techniques and applications*. Reading, MA: Addison-Wesley.

Miller, S., & Madison, C. (1984). Public school voice clinics, part II: Diagnosis and recommendations—A 10-year review. *Language, Speech, and Hearing Services in Schools, 15,* 58–64.

Pigott, T., Barry, J., Hughes, B., Eastin, D., Titus, P., Stensel, H., et al. (1985). *Speech-Ease Screening Inventory (K–1)*. Austin, TX: Pro-Ed.

Rothwell, W. J., & Kazanas, H. C. (1997). *Mastering the instructional design process: A systematic approach*. San Francisco: Jossey-Bass.

Sander, E. (1989). Arguments against the pursuit of aggressive voice therapy for children. *Language, Speech, and Hearing Services in Schools, 20,* 94–101.

Silverman, E., & Zimmer, C. (1975). Incidence of chronic hoarseness among school-age children. *Journal of Speech and Hearing Disorders*, *40*, 211–215.

Stemple, J. C., Glaze, L. E., & Klaben, B. G. (2000). *Clinical voice pathology: Theory and management*. San Diego, CA: Singular.

Woodnorth, G. H. (2004). Assessing and managing medically fragile children: Tracheostomy and ventilatory support. *Language, Speech, and Hearing Services in Schools, 35,* 363–372.

Woudenberg, G. (1991). An evaluation of Delphi. *Technological Forecasting and Social Change*, *40*, 131–150.

Received August 16, 2003
Accepted September 15, 2003
DOI: 10.1044/0161-1461(2004/030)

Contact author: Linda Lee, PhD, Professor and Graduate Program Director, University of Cincinnati, Department of Communication Sciences and Disorders, 202 Goodman Avenue, French East Building G-65, Cincinnati, OH 45267-0394. E-mail: linda.lee@uc.edu

APPENDIX A. QUICK SCREEN FOR VOICE

Name: _____

Birth Date: _____ Screening Date: _____ Age: _____

Speech-Language Screening Date: _____ Passed Failed

If failed, describe communication status:_____

Hearing Screening Date: _____ Passed Failed

If failed, describe hearing status:_____

Pertinent medical and social history: _____

_____

Directions: The Quick Screen for Voice should be conducted in a quiet area. Elicit verbal activities, such as spontaneous conversation, picture description, imitated sentences, recited passages, counting, and other natural samples of voice and speech, or perform the tasks requested. The screening test is failed if one or more disorders in production are found in any area, indicating that a more thorough evaluation is needed.

Mark all observations that apply, as the individual produces connected speech:

Respiration

_____ Inhalatory stridor or expiratory wheeze
_____ Infrequent breaths; talking too long on one breath
_____ Limited breath support for speech
_____ Reduced loudness or vocal weakness

_____ Normal respiration for speech

Phonation

_____ Rough or hoarse quality
_____ Vocal strain and effort
_____ Persistent glottal fry
_____ Conversational pitch is too high or too low
_____ Conversational voice is limited in pitch or loudness variability
_____ Breathy quality
_____ Aphonia
_____ Hard glottal attacks
_____ Conversational voice is too loud or too soft

_____ Normal voice quality

Resonance

_____ Hyponasality (observed during humming, nasal consonant contexts: Mommy makes me muffins; Man on the moon; Many men make money, etc.).
_____ Consistent mouth breathing
_____ Hypernasality (observed during vowel and oral consonants)
_____ Nasal turbulence or audible nasal emission (observed during pressure consonant contexts: Counting from 60 to 69; Popeye plays baseball; Give Kate the cake; Buy Bobby a puppy, Take a ticket to Daddy, etc.).
_____ Juvenile resonance characteristics

_____ Normal resonance

Nonverbal Vocal Range and Flexibility

Model the series of nonverbal tasks that are described on the test form. Multiple trials are allowed. Visual cues such as hand gestures, moving a toy car across the table (for maximum phonation time) or up and down a hill (for pitch range), etc. may be used to supplement the auditory model.

1. Habitual pitch and loudness task: "Count from 1 to 10. Repeat, but stop at 'three' and hold out the /i:/."

   _____ Abnormal pitch and/or loudness

   _____ Normal pitch and loudness

2. Maximum phonation time (MPT) task: "Take your biggest breath and hold out an /a:/ as long as possible." Record time with a secondhand.

_____ Number of seconds /a/ was sustained.

_____ MPT less than:

Age (years)	Normal Mean in Seconds (Range)*
3	7 (3–11)
4	9 (5–15)
5	10 (5–16)
6–7	13 (5–20)
8–9	16 (5–29)
10–12	20 (9–39) Males
	16 (5–28) Females
13–17	23 (9–43) Males
	20 (9–34) Females
18+	28 (9–-62) Males
	22 (6–61) Females

Note. MPT values are related to age and height; multiple attempts also influence results.
*Data summarized from Kent, Kent, & Rosenbek (1987)

_____ MPT within normal limits

3. Pitch range task: "Make your voice go from low to high like this (demonstrate upward pitch glide on the word 'whoop'). Now go down from your highest to low (demonstrate rapid downward pitch glide like a bomb falling)." Or, model and elicit a fire siren sound.

_____ Little pitch variation
_____ Voice breaks in pitch glides up or down

_____ Acceptable pitch range and flexibility

Other Comments or Observations

_____

_____

_____

_____

APPENDIX B. DEFINITIONS OF THE VARIABLES USED IN THE QUICK SCREEN FOR VOICE

Respiration

Inhalatory stridor or expiratory wheeze: Sound heard on inhalation or exhalation, indicating an obstruction at some point in the airway that creates airflow turbulence

Limited breath support for speech: Failure to create a sufficient amount of air to support connected utterances; frequent need to replenish the breath supply; typically, failure to inspire beyond the tidal breathing range

Infrequent breaths; talking too long on one breath: Failure to replenish breath often, or failing to take sufficient breaths so that utterances extend beyond end-tidal breathing into the expiratory reserve

Reduced loudness or vocal weakness: Soft voice, or one that sounds fatigued, possibly due to diminished respiratory support

Phonation

Rough or hoarse quality: Quality deviation of the voice reflecting aperiodic vibration of the vocal folds during phonation

Breathy quality: Quality deviation of the voice reflecting a larger than normal glottal opening, allowing excessive airflow through the vocal folds during phonation

Vocal strain and effort: Tension, strain, and/or effort needed to speak; this may include difficulty initiating or maintaining phonation, and may also include supporting evidence of visible neck or jaw tension

Aphonia: Absence of voicing, which may be intermittent or constant; may occur as voice "cutting out" or whisper, and can be accompanied by apparent strain, tension, or effort

Persistent glottal fry: Rough, low-pitched, tense voice quality that often occurs at the end of sentences, reflecting tightly approximated vocal folds with flaccid edges vibrating at a low fundamental frequency

Hard glottal attacks: A manner of initiating voicing characterized by rapid and complete adduction of the vocal folds prior to the initiation of phonation

Conversational pitch is too high or too low: Relative to the speaker's age and sex, the voice is maintained at an inappropriate average fundamental frequency

Conversational voice is too loud or too soft: Relative to the speaker's age and sex, the voice is maintained at an inappropriate average intensity

Conversational voice is limited in pitch or loudness variability: The voice lacks normal variations in fundamental frequency or intensity, leading to reduction in pitch or loudness variations; monopitch or monoloudness may be considered the extremes

Resonance

Hyponasality: Reduction in nasal resonance during the production of nasal consonants /m, n, N/, reflecting blockage in the nasopharynx or the entrance to the nasal cavity

Consistent mouth breathing: Open-mouth posture; the need to breathe through the mouth because of possible nasal airway obstruction

Nasal turbulence or audible nasal emission: Also called nasal rustle, nasal turbulence is frication heard as air pressure is forced through a partially opened velopharyngeal valve; audible nasal emission, also called nasal air escape, is inappropriate airflow through the nose during speech, typically occurring on high pressure consonants because of velopharyngeal dysfunction; either characteristic may be a consonant-specific learned behavior

Hypernasality: Sound entering the nasal cavity during production of vowels or liquid consonants due to velopharyngeal dysfunction, resulting in excessive acoustic nasal resonance

Juvenile resonance characteristics: Child-like quality to the voice; often accompanied by high pitch and abnormal tongue posture, giving the voice an immature sound, usually seen in teenage girls and women

Nonverbal Vocal Range and Flexibility

Habitual pitch and loudness task: Relative to the speaker's age and sex, the appropriateness of pitch or loudness during a sustained vowel is noted

Maximum phonation time task: The length of maximum phonation time is noted; norms are provided by age category to help the examiner decide whether or not MPT is within normal limits

Pitch range task: Ability to vary the pitch of the voice, and the presence of voice breaks during the gliding activity, are noted; the pitch range increases with age from approximately one-half octave for preschool children to over two octaves for adults

APPENDIX C. FUNCTIONAL INDICATORS OF VOICE DISORDERS IN CHILDREN AND ADOLESCENTS

Please check all that apply to this child:

_____ Coughs, clears throat, or chokes frequently
_____ Has difficulty breathing or swallowing
_____ Complains of a sore throat often
_____ Voice sounds rough, hoarse, breathy, weak or strained
_____ Loses his/her voice every time s/he has a cold
_____ Always sounds "stuffed up," like during a cold; or sounds like s/he is talking "through the nose"
_____ Voice sounds worse at different times of the day (morning, after school, evening)
_____ Sounds different from his/her friends of the same age and sex
_____ Voice sounds worse after shouting, singing, playing outside, or talking for a long time
_____ Uses a lot of effort to talk; or complains of vocal fatigue
_____ Yells, screams, or cries frequently
_____ Likes to sing and perform often; participates in acting and/or singing groups
_____ Participates in sports activities or cheerleading activities that require yelling and calling
_____ Has difficulty being understood by unfamiliar listeners
_____ Can't be heard easily in the classroom or when there is background noise
_____ Talks more loudly than others in the family or classroom
_____ Voice problem is interfering with his/her performance at school
_____ Doesn't like the sound of his/her voice; or is teased for the sound of his/her voice
_____ Attends many loud social events (parties, concerts, sports games)
_____ Seems tired or unhappy a lot of the time
_____ Is facing difficult changes, such as death, divorce, financial problems
_____ Does not express his/her feelings to anyone
_____ Lives with a family that uses loud voices frequently
_____ Smokes, or is exposed to smoke at home or at a job
_____ Uses alcohol
_____ Eats "junk food" frequently; or complains of heartburn or sour taste in the mouth
_____ Drinks beverages that contain caffeine; or drinks little water
_____ Has allergies, respiratory disease, or frequent upper respiratory infections
_____ Has hearing loss or frequent ear infections
_____ Takes prescription medications (please list)
_____ Has a history of injuries to the head, neck, or throat (please describe)
_____ Has had surgeries (please describe)
_____ Was intubated at birth or later (please describe)
_____ Has a chronic illness or disease (please describe)

My primary concern about this child's voice is (please describe):

APPENDIX D. YOUR CHILD'S VOICE

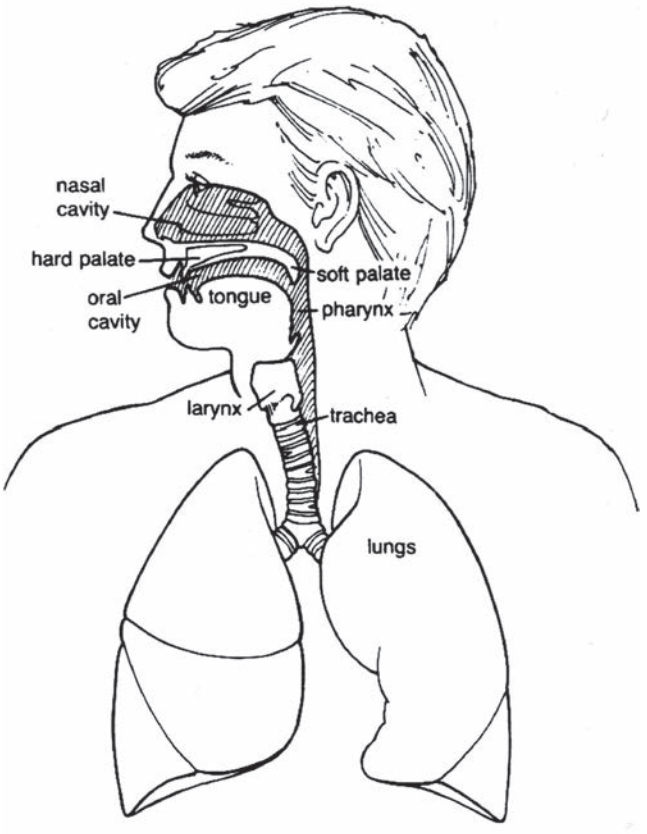
Your child has been identified as having a **voice disorder**, meaning that his/her voice sounds different from that of other children of the same age and sex. The purpose of this pamphlet is to provide you with information about the cause, diagnosis, and management of voice disorders.

How Is Voice Produced?

Figure 1 contains the primary structures in the vocal tract. The larynx is a system of cartilages, muscles, and ligaments in the neck (pharynx). It sits on top of trachea, the passageway to the lungs. The passageway to the stomach is behind the larynx and trachea. The larynx is covered when we swallow, so food does not enter the trachea.

The larynx contains thin membranes, called vocal folds. The vocal folds sit in an open position during breathing. When a person wants to speak, muscles close the folds, and air from the lungs causes them to vibrate. The sound the vocal folds make then resonates through the mouth (or nose, for some sounds) and speech is created. The combination of breathing, vibrating the vocal folds, and shaping or resonating the vibration creates the distinct sound you recognize as your child's voice. A problem with any part of the voicing process may lead to a voice disorder.

Figure 1. The vocal tract.



How Might a Voice Disorder Affect a Child's Education?

The effects of a voice disorder may decrease the child's ability to interact effectively in the classroom setting. Speech may be difficult to hear or understand, and the child may be less likely to participate in daily educational activities, such as volunteering answers or reading aloud. A childhood voice disorder may also decrease the potential for developing a normal adult voice.

What Are Common Causes of a Voice Disorder?

Laryngeal pathologies are changes in the larynx and vocal folds that are associated with voice disorders. Many factors contribute to the development of laryngeal pathologies, including **voice misuse, medical problems,** and **personality-related issues.** Each of these is described below.

Voice Misuse
The majority of laryngeal pathologies are due to the way a child misuses the voice. Children often engage in loud talking, screaming, or shouting, such as at sports events. They may enjoy making vocal noises during play, imitating motorcycles, action figures or monsters. Habits such as these may harm young voices. Excessive coughing or throat clearing may also damage the vocal folds.

Sometimes children learn to speak in an incorrect manner, such as using a very low pitch level. Or, the child may be so eager to communicate that he/she does not pause for enough breaths to support the voice.

The vocal folds are covered by a thin layer of mucous membrane, somewhat similar to the lining of the cheek. If a child drinks caffeinated soft drinks and little water, this membrane can become dry. Other sources of dryness may be exposure to smoke, dust, or dehumidified air.

The examples presented are habits that may cause irritation to the vocal folds. Constant irritation may lead to vocal fold changes, such as swelling (edema), redness, or callous-like growths called vocal nodules.

Medical Causes
Some children develop voice disorders because of a medical problem. An infant may be born with structural defects of the larynx. Neurologic problems, such as vocal fold paralysis, can occur. Chronic upper respiratory or other viral infections, allergies, and gastrointestinal disorders are other examples of medical problems that may lead to laryngeal pathologies. The larynx may be damaged during an accident or surgery. Finally, some medications have side effects that may contribute to changes in vocal fold vibration.

A resonance problem is a special category of voice disorders related to how the sound travels through the oral and nasal cavities after it leaves the larynx. The hard palate separates the two cavities, and the soft palate acts like a valve to open or close the nasal area. The sound should resonate in the oral cavity for all vowels and consonants except *m, n,* or *ng,* which resonate in the nasal cavity. A resonance imbalance occurs when the sound takes the wrong path, or when the sound is distorted due to a problem encountered as it travels through the cavity. For example, if a child sounds like he/she has a cold (hyponasality), it may be due to a blockage somewhere between the nose and mouth. Enlarged adenoids are one common cause of hyponasality. If sound is heard coming through the nose when it should not be present

(hypernasality or nasal turbulence), there may be an incomplete closure of the soft palate. Children born with a cleft palate are among those who may develop resonance problems.

Personality-Related Causes
The larynx is very sensitive to emotions. Therefore, a child's voice disorder may be due to the way he or she feels, physically and emotionally. For example, a child experiencing overall tension because of anxiety encountered in school or at home may also tense the muscles that control the voice, and this can lead to a voice disorder. Occasionally, difficulties in the child's life may become so severe that he/she may unconsciously develop a voice disorder in an attempt to avoid the stressful situation. Other types of voice disorders are related to personality development or hormonal changes during puberty.

How Will I Know the Cause of *My* Child's Voice Disorder?

It is important to note that no one can tell the cause of a voice disorder by the way a child sounds. A child with a vocal nodule caused by yelling and screaming can have the same voice characteristics as the child with a laryngeal pathology due to a medical problem. In order to determine the cause of your child's voice problem, the vocal folds must be examined.

Who Will Examine My Child, and How Will It Be Done?

Although some primary-care physicians will examine the vocal folds, most refer the child to an Ear, Nose and Throat specialist (ENT). Another name for an ENT is an **otolaryngologist**. The otolaryngologist will determine the presence and cause of any **laryngeal pathology.**

The otolaryngologist may view the vocal folds by one of several methods. Some physicians place a small mirror in the child's mouth to visualize the folds. Others use a small flexible scope inserted into the child's nose. This procedure is called nasendoscopy, and it can also be used to examine a child with a resonance problem. A third method, called videostroboscopy, involves placing a small video-scope in the child's mouth. When attached to a special instrument called a stroboscope, the vocal folds can be viewed during their vibration. Both nasendoscopy and videostroboscopy provide a view of the vocal folds or other structures on a television monitor.

None of the procedures used to examine the child with a voice disorder is harmful, and children tolerate them well. Sprays may be used to temporarily numb the nose or back of the throat to eliminate any mild discomfort.

Some otolaryngologists work in collaboration with **speech-language pathologists** who specialize in voice disorders. The speech-language pathologist (SLP) will determine the effect of the laryngeal pathology on **voice production.** The SLP in your child's school may have already conducted a voice evaluation.

What if the Otolaryngologist's Exam Is Not Covered by My Insurance, or I Cannot Afford It?

Most private insurance, managed care plans, and Medicaid cover the costs of diagnostic procedures. To determine coverage of your specific insurance, you are encouraged to discuss this issue with the provider-relations representative. Should your insurance be one of the few that does not cover this examination, you may negotiate a reasonable payment plan with most otolaryngology offices. The speech-language pathologist at your child's school may also provide information about funding sources.

How Will My Child's Voice Disorder Be Corrected?

Methods of correcting your child's voice disorder depend entirely upon the cause. Treatment may be managed through voice therapy provided by a speech-language pathologist, medical management provided by an otolaryngologist, or a combination of the two.

Because the cause of a voice disorder cannot be determined by the characteristics of the voice, the speech-language pathologist in your child's school cannot conduct voice therapy until a physician provides a medical diagnosis. Parents know their child's vocal habits and are sometimes convinced the problem is due to misuse. As an example, they may feel the voice disorder will simply go away if the child stops screaming. Unfortunately, the most vocally-abusive child may have a coexisting medical condition requiring medical management. **For the child's protection, the American Speech-Language-Hearing Association's Preferred Practice Patterns (1997) require medical examination prior to voice therapy.**

Most **voice problems due to misuse or abuse** can be eliminated through voice therapy. The child learns to eliminate the causes of the voice problem and ways to change the manner of speaking. Vocal exercises or other activities may be combined with learning healthy vocal habits to eliminate the problem and prevent future recurrence.

Medically-caused voice problems are typically managed through medication or surgery. Sometimes voice therapy is needed after medical intervention.

The speech-language pathologist, working closely with you and other individuals in the child's life, often manages **personality-related voice problems**. Sometimes a psychologist or classroom teacher is included in the therapy process.

Where Can I Find More Information About Voice Disorders?

Many resources exist to provide information about voice disorders. The speech-language pathologist at your child's school and the otolaryngologist will have suggestions specific to your child's voice disorder. Textbooks about voice disorders are available through university or medical libraries.

The American Speech and Hearing Association is a national organization serving all individuals with communication disorders. For information, call 1-800-498-2071, or use the address http://www.asha.org on the Internet.

The Following Information Is Specific to My Child

Language, Speech, and Hearing Services in Schools, Volume 22, 173–178, July 1991

Reducing Vocal Abuse: "I've Got To Be Me"

Kenneth W. Burk
Wichita State University-Wichita, KS

Laurie E. Brenner
Wichita Public Schools, Wichita, KS

In this clinical commentary, the importance of listening *first* to the feelings the adolescent has concerning a voice difference is emphasized. This is regarded as preferable to immediately taking an "action-oriented" approach to creating voice changes. Even a program of vocal abuse/use reduction may threaten the vocal/personal identity of the speaker. With this as the basic concept, a strategy for behavioral charting is described, and suggestions given on ways of facilitating voice changes.

KEY WORDS: adolescent, voice, nodules, contract, carryover

The purpose of this clinical commentary is to suggest the utility of a "behavioral contract" in reducing vocal abuse and excessive vocal use in adolescents with voice disorders due to vocal nodules or comparable additive lesions. Contracts may have value as well in other circumstances when for a period of time it is critical to monitor the amount and type of voice use. Inherent in this discussion is the issue of the "stance" of the clinician in proposing and negotiating the contract with the dysphonic adolescent.

In virtually every management program for vocal abuse disorders, it is necessary to make sure that any current or potential medical problems that could affect the larynx are under control. The importance of eliminating or minimizing associated medical factors is mandatory if voice changes are to be achieved (Leeper, Leonard, & Iverson, 1980). It is necessary also that there be a period of time wherein there is significant reduction in amount and type of vocal use and abuse, while the person receives instruction on ways of initiating voice that reduce the use of a loud and abrupt vocal attack. If there is not a significant reduction in vocal use and abuse for a period of time, there may be little possibility of demonstrating to the person that an improved voice is possible. The clinician may have used the best voice management procedures possible, and have them fail to be effective because the voice is never rested sufficiently for the change to be audible to the student. Failing to demonstrate an audibly improved voice may cost the clinician that critical "edge of motivation" for persons already tentative in their belief that change is possible or even desirable. For students with an already poor prognosis, it may mean the end of productive management.

Adolescents returning from a medical examination where bilateral vocal nodules (or other comparable additive lesions such as vocal fold thickening) have been diagnosed, come to the clinician with a wide range of questions and feelings about the outcome of the medical examination. How they present themselves will depend in large part on the amount and type of information provided them by the examining physician and the sensitivity with which it was given. If use of the voice is important to the student (e.g., singing, acting, public speaking, cheerleading), that information is especially critical. More often than not, they enter our offices under a "cloud of doom," with the prospect that they will be placed on voice rest (rarely defined) for an indeterminate time (probably the rest of their lives). And of course, they know that "silence" is equated with death. They sense (feel) a "commitment for life" that is not compatible with their self-perceptions. We can run headlong into the problem posed by the title of this clinical commentary, "I've Got To Be Me," the name of the hit song from the musical production *Golden Rainbow* that opened on Broadway in 1968. The message then and now is what the title implies. How effectively we handle this affective issue will determine in large measure the outcome of our management efforts. That is, "Can I be me during voice rest?" "Can I still be me with the different voice?" Embedded in these questions is acceptance by peers.

Basic to the issue of self-perception and change, is the question, "Problem, problem, who's got the problem?" In the spirit of the diagnosogenic theory of stuttering, is the problem in the ear of the listener or is it in the voice of the speaker? It is clear that in the area of voice, the talker must violate the stereotypic expectations of the listener very significantly before any difference is heard and a negative reaction occurs. And what does the adolescent

0161-1461/91/2203-0173$01.00/0

say? "My friends accept me as I am, voice and all, so why should I change"? The more we as clinicians argue this issue with the adolescent, the deeper we may tend to dig our "non-adolescent" hole. It was Siegel (1966) who many years ago alluded to a basis for this very current problem.

> The speech pathologist, then, works with persons who have disordered speech. In a very fundamental way this is a peculiar and ambiguous professional enterprise; the commodity with which he is concerned does not have independent existence. (p. 70)

The above quotation is interpreted to mean that for the problem to exist, it takes someone to talk and someone to listen and make an evaluation. Siegel indicates further that while the speech-language pathologist uses skills attuned to scientific evaluation of a disturbance of speech, the lay listener tends to personalize the evaluation, hence, the difference in perception that can exist between ourselves, and in this case, the dysphonic adolescent. Siegel describes these issues in the following manner:

> The lay person, on the other hand, attends to the speech more in the context of the speaker. He personalizes his evaluation. Mr. Jones with the rough and raspy voice is not speech handicapped for the simple reason that he is not handicapped. He has a nice home, is successful in business, and is socially active. (p. 71)

There would be little argument among clinicians that unless the individual ultimately feels that the new voice sounds right, the degree of carryover will be very limited at best. Permanent voice changes come with alterations in both the personal and vocal life styles of the individual. Variations in prognosis are tied to the perception of the individual in this regard. Those who may use voice as a coping strategy for dealing with a world they see as hostile are unlikely to change. There are those with whom we have the role of providing the best professional information and leaving a door open so that, at some time, they may return when they find new reasons for changing. Insisting on participation leads only to nonproductive management and to persons who, at some later time, may reject voice management when it is needed because they had no benefit from their previous experience.

A Clinical Stance

How clinicians handle the issue of "with whose ears should we listen" will determine the success we are likely to experience—through the motivation we may gain or lose in the process. A posture taken from the literature of clinical psychology and the area of counseling may apply in terms of dealing with the newly diagnosed individual (Myers & Nance, 1986). The stance is that we must deal first with the feelings associated with the diagnosis before we can presume to begin to provide information about voice. We are sufficiently "action oriented" in our training that we may not always ask individuals, "How do you feel about the information given you by the doctor?" Remember that even when persons are complaining they are giving information that you may need in your clinical work with them. Myers and Nance (1986) suggest strongly that client should first be allowed to tell "their story" without interruption. Until you have heard their story, it is not likely that they will listen to the "what we need to do" information that you are armed to present (Collison, 1978).

Recognizing the importance of dealing effectively with this early affective state will mean the difference between an adversarial and a cooperative type of relationship with some adolescents. It has been the senior author's experience that some individuals can go through denial, as experienced in the extreme by parents of handicapped children. Moses (1985) suggests that there are at least four things a person can deny: (a) fact, (b) implications, (c) consequences, and (d) feelings. For example, one might accept the diagnosis (fact), but not the implications or consequences associated with the disorder. Or, one might acknowledge the presence and implications of the problem, but deny having any feelings about the disorder. Individuals engage in denial, according to Moses, in order to buy the time needed to gather strength to deal with the issues, and to develop external support. In therapy, clinicians often ask clients to bring a friend to one of the clinical sessions to develop external support. What does not work for persons who are denying is to bombard them with the "facts of the matter" over and over, and end the statements with some type of a threat, such as "or else."

Another feature of our stance is illustrated by a concept presented by Rich (1968), in his unusual book on interviewing children and adolescents. He suggests that it is arrogant of us to assume that a child/adolescent wants our friendship and that we may have to work hard to persuade the individual that it is worth having. As reflected in Figure 1, the ideal situation is Quadrant A, where the client is friendly and sees the professional as one who can help.

What we may often encounter is the person who does not feel positive toward us and also does not see us as a person able to create positive change (Quadrant D). There are several ways to move the student to Quadrant A. One is to establish yourself as someone who is friendly (movement to Quadrant B), and then attempt to move the person in the direction of wanting help (Quadrant A). The pitfall of this sequence is that the process could get stalled at the level of Quadrant B, and in the words of Rich, we become "friends without influence." In some circumstances, what we may need to do, in a positive and business-like way, is to get the job done (move directly to Quadrant C), and not spend an undue amount of time and energy in moving from there to Quadrant A. Although it may offend our clinical egos, we do not have to be liked in order to do our job. That does not imply, however, that we are any less caring and sensitive, but simply that we do what needs to be done to achieve changes and do it in a positive and direct way. How often do we hear parents comment that they really do not like a particular physi-

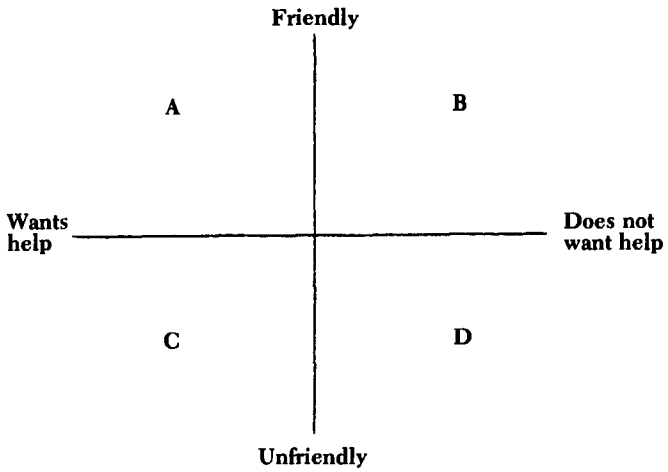


FIGURE 1. Clinical interaction matrix (Rich, 1968, p. 28).

cian very much because of professional manner, but because the doctor is competent, personal feelings are set aside.

In short, we increase our effectiveness if we deal first with the person's affective state, especially if the person is denying fact, implications, consequences, or feelings. The need for time and development of external support may be necessary before we can hope to introduce our plan of action. We may need to be careful that we do not inadvertently become "a friend without influence," and lose our clinical potency as we attempt to create a positive climate for change in voice management. Clearly, the plan of action must take into consideration "I've got to be me," if long-term stable clinical outcomes are expected.

Behavioral Contracts

As a clinical example, consider the management program developed for a young female adolescent referred to our Voice Clinic with a diagnosis of bilateral vocal nodules. The problem was first noticed by her music instructor. She had been involved actively and intensively in a theater group. The voice problem was very upsetting to her because she was told by her voice teacher that she could not receive lessons until the problem was resolved. During the voice evaluation, she was given information on vocal nodules (Appendix A), and viewed a videotape showing fiberoptic views of the normal larynx in action and the manner in which vocal nodules impair this normal function (Wilson, 1985). These materials then were discussed at length with her and her parents. She came to the evaluation dreading the prospect of not being able to use *any* voice for a period of time. There were no significant associated medical issues, although "safe" ways of coughing and throat clearing were discussed during management (Stemple & Lehmann, 1980).

The "I've got to be me" response to suggestions was observed early in management, but because she wanted to return to singing and acting, she was willing to discuss ways in which she could reduce the amount and type of voice use. She was asked to keep a voice diary for a short period of time (one week day and one weekend day) and discuss with her parents ways in which she might be abusing or overusing voice. She also made daily "voice tapes," with a short period of reading and some monologue, for a total recording time of no more than half a minute. This was done at the same time each day, and allowed a brief review of voice changes that occurred across the days represented by the recording. On the basis of these types of information, a "Voice Reduction Agreement" was formalized and signed (Appendix B). It was for a 4-week period of time. The short time period is critical to avoid the "committed for life" reaction. During the formulation and discussion of the contract, we talked about her feelings in regard to the assignments.

Once the contract was under way, it became apparent that there was need for more than expected attention to be directed toward monitoring loud talking, yelling, shouting, and singing. A charting procedure was used in which on a daily basis, the client had to count the number of such abuses in the situations of talking (a) in the hallway at school, (b) in the car, and (c) at mealtime. The parents also provided weekly feedback in which number of abuses were noted at home. Boone and McFarlane (1988) and Wilson (1987) are among voice experts who advocate the value of such charting. A final version of these attempts to translate the contract into a workable set of daily observations is presented in Appendix C. On a daily basis, seven situations were given a general rating, with the added value of being able to sum the ratings across days and the entire week. This method of charting behavior proved to be workable for the client. The contract and supportive behavior charting methods described have allowed for a significant improvement in the vocal health of this adolescent. As a reward for her efforts, she has won a "negotiated" brief appearance in a play.

The materials are offered in the hope that the procedures might have value for students with whom you work. The clinical example discussed is not uncommon in terms of the variables involved in attempting to create a positive clinical environment and effecting change, although the

level of general motivation was more favorable for this student than found in many instances.

As a final comment regarding our interactive style as clinicians, the reader is referred to the writings of Hershey and Blanchard (1982) on situational-leadership styles. Adapted to our clinical work, it suggests ways of evaluating where the adolescent may be at the time of initial intervention and what our corresponding posture or "style" should be for clinical change. It postulates several levels of clinical behavior and flows from "telling" to "selling" to "participating" and then to "delegating." Where the clinician begins with the student is in keeping with the clinician's evaluation of the perceived need for structure (task orientation), and judged maturity level (competence and willingness). For example, if the student is willing but does not have much information (is not able), as in the clinical example discussed, the initial tact may be to "sell" the need for change, but to do so with time spent also in developing a relationship, (e.g., "How do you feel about the suggestions that are being worked on"?) In this model, the clinician serves as the source of reinforcement and support. For the student who is both unwilling and unable, being pleasant but businesslike may be a more appropriate initial stance ("Telling"), with more of the relationship element added only as goals are accomplished. All too often, we tend to begin with what are later found to be incorrect assumptions about both knowledge and willingness of the student, and how difficult it is to retrace one's steps. This task-maturity model has been proposed recently for use in our field in the area of clinical supervision (Mawdsley & Scudder, 1989). The concept brings to full cycle the point made early in this clinical commentary—that one needs to deal initially with where the adolescent is, and to develop a management program that is collaborative. It is proposed that a behavioral contract may be a useful element in such a management program.

SUMMARY

This article has attempted to touch on issues considered critical to the clinical management of voice disorders in the adolescent. We must learn to listen first to how the student feels about the problem, and only then to begin the process of suggesting changes. Some pitfalls in the process have been identified, and procedures were described for effecting change. With these as basic concepts, suggestions for accomplishing necessary vocal use and abuse reduction were given.

REFERENCES

BOONE, D., & MCFARLANE S. (1988). *The voice and voice therapy* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

COLLISON, B. (1978). The Mrs. Lincoln response. *Personnel and Guidance Journal, 57,* 180–182.

HERSHEY, P., & BLANCHARD, K. (1982). *Management of organizational behavior: Utilizing human resources* (4th ed.). Englewood Cliffs, NJ: Prentice-Hall.

LEEPER, H., LEONARD, J., & IVERSON R. (1980). Otorhinolaryngological screening of children with vocal quality disturbances. *International Journal of Pediatric Otorhinolaryngology, 2,* 123–131.

MARKS, W. (1968). I've got to be me. Song from *Golden Rainbow.* New York: Broadway Theater production.

MAWDSLEY, B., & SCUDDER, R. (1989). The integrative task-maturity model of supervision. *Language, Speech, and Hearing Services in Schools, 20,* 305–319.

MOSES, K. (1985). Dynamic intervention with families. From: *Hearing-impaired children and youth with developmental disabilities: An interdisciplinary foundation for Service* (Ch. 6). Washington, DC: Gallaudet College Press.

MYERS, P., & NANCE, D. (1986). *The upset book: A guide for dealing with upset people.* Notre Dame, IN: Academic Publications.

RICH, J. (1968). *Interviewing children and adolescents.* New York: St. Martins Press.

SIEGEL, G. (1966). Evaluative reactions and the pathologies of speech. *Quarterly Journal of Speech, 102,* 70–73.

STEMPEL, J., & LEHMANN, M. (1980). *Throat clearing: The unconscious habit of vocal hyperfunction.* Technical session presented at the American Speech-Language-Hearing Association Convention, Detroit, MI.

WILSON, D. (1987). *Voice problems of children* (3rd ed.). Baltimore, MD: Williams & Wilkins.

WILSON, F. (1985). *Flexible fiberoptic video nasendoscopy* [videotape]. Bellingham, WA: Voice Tapes.

Received January 3, 1990
Accepted October 4, 1990

Requests for reprints may be sent to Kenneth W. Burk, Ph.D., Department of Communication Disorders and Sciences, Wichita State University, Wichita KS 67208-1595.

APPENDIX A

THE WICHITA STATE UNIVERSITY SPEECH-LANGUAGE-HEARING CLINICS

THERAPY PROGRAM FOR IMPROVED VOCAL USE

Questions and Answers

1. What are vocal nodules? Added layers of tissue on the vibrating edge of the vocal folds that vary in size from pinpoint to the size of a peppercorn. They develop as the body attempts to protect itself against abuse and overuse of the voice. They usually are on both vocal folds, and located a third of the way down from the front of the vocal folds.
2. How do they develop? Nodules develop through a person (a) continuously using a loud voice (whether speaking or singing), and (b) along with this, abusing the voice through shouting, yelling, etc.
3. What is the primary cause? Because of what the person does with voice, the repeated hard beginning of voice (vocal attack), using a greater than normal loudness IS THE BASIS FOR NODULES DEVELOPING. This development can be enhanced by medical problems (e.g., laryngitis, edema (swelling), sinus, etc).
4. What are the symptoms? The major symptoms are that the person is having to work harder than normal to make voice (tension), and because of the presence of the nodules, is not able to get complete closure of the vocal folds (hence, there is breathiness). In addition, the person may have pitch breaks or uncertainty of pitch (as during singing), a reduction in the upper part of the pitch range, as well as instances where the pitch level is heard as lower than usual.
5. What is worked on directly? The symptom worked on directly is the loud abrupt vocal attack. No direct work is done on reducing breathiness, or changing pitch level. Along with changing the way voice is started (attack), there must be some reduction in the overall amount of talking or using voice.
6. How long will it take? With good cooperation, an audible change in voice should be heard within 4–6 weeks. By 6 months, there should be an absence or significant reduction in the size of the nodule, as determined by medical examination.
7. How will I know the voice is improving? In order, the changes in voice are as follows: (a) reduction in pitch breaks and breaks in voicing, (b) awareness of less tension in making voice, and (c) an awareness of less breathiness in the voice.

ORGANIZATION OF THERAPY PROGRAM

1. There is need to make sure that any current or potential medical problems that may be affecting the larynx, are under control.
2. There is a period of partial voice rest for a period of 4–6 weeks, in order to allow the improvement in voice that is possible, and opportunity to be "heard." There are three parts to this program, which need to be done by you outside the Clinic and reported to your clinician.
   (a) Instances where the voice is used is an abusive way should be reduced. Identify your "peak" voice usage time, and attempt by 50% to reduce instances of yelling, etc.
   (b) Watch very carefully for an excessive amount of coughing and throat clearing. Also, you should not "perform" in the sense of using funny voices.
   (c) Find ways of significantly reducing (notice this is not a prescription for total voice rest), the overall amount of use of voice in daily activities. You will need to work this out with your clinician.

APPENDIX B

VOICE REDUCTION AGREEMENT

I. Introductory Statement
   The outcome of voice therapy is in your hands. The best vocal techniques are fruitless unless they are used with fully rested and functioning vocal folds. This can only be achieved through a reduction of vocal use and absence of vocal abuse.

II. Overal Goal of Therapy
   You will reduce use and abuse through a short-term intensive vocal reduction agreement.
   - A. Informed of peak vocal abuse situations
     1. Acknowledged
     2. Reduced
   - B. Informed of vocal use time
     1. Acknowledged
     2. Reduced
   - C. Instructed in vocal behavior modification
     1. Vocal intensity decreases
     2. Appropriate word initiation/breathy approach as opposed to harsh vocal attack
     3. Appropriate use of available air supply . . . not forcing words at the end of a breath

III. Objectives
   - A. Not to talk for PLANNED periods of time during daily activities
     1. This does not include sleeping, showering, studying, etc.
     2. If need arises for communication during these times, use of a breathy voice is required
   - B. Reduce situations where there is difficulty in not talking
     1. Lunch time with friends . . . listen more than talk or sit with more people so less talking is expected
     2. In general, the time spent with friends needs to be monitored closely and changed if it is a problem situation
   - C. To keep a voice tape denoting success in reduction of abuse and use of voice
     1. This is a daily log and should include the date and time of the recording
     2. The selected reading should be completed every morning and evening. After the evening recording a specific description on vocal use/abuse of that day should be included. This tape should be brought to each therapy session.

IV. Specific guidelines
   - A. From wake-up time to the time of the first class at school, NO vocal use is allowed. This will be explained to family members so that they can be supportive of your efforts.

B. NO speaking unless the other person is within touching distance. No shouting from room to room.
C. DO NOT carry on conversations:
   1. Across a crowd, stage, large room, etc.
   2. In the presence of high noise levels:
      a. TV set
      b. stereo/radio/orchestra/band
      c. car
      d. other people
      e. appliances (e.g., mixer, sweeper, blender)
D. Telephone conversations should be limited to one two-minute call per day. An egg-timer is an excellent way to monitor and limit this period.
E. There may be NO uses of funny voices, yelling, shouting, sound effects, reading aloud, singing or other abusive activities.
F. While in the cafeteria, talking is permitted only when it is necessary.
G. NO auditions for any vocal part until voice therapy is completed.
H. Monitor vocal abuses with a counter at three specified times during the day:
   1. In the hall between classes
   2. In the car
   3. At mealtime

   These should be recorded on a chart daily. Any comments should be written beside the tally.
I. ABSOLUTELY NO yelling at your brother.
J. After school activities must be monitored and discussed at each therapy session. If excessive vocal use is apparent, more specific guidelines may be formed.
K. If at any time a sore throat, allergies or other throat ailment occurs, all talking is prohibited.

V. Time Line

To be implemented beginning (date) and continuing for 4 weeks, depending on progress and follow-through of guidelines. If there are no apparent vocal use changes through the time line, it will be discussed at the end of the 4-week period.

I, _____, have read the above agreement and understand the necessity of the guidelines and the probable outcomes. I wish to comply with these guidelines and continue to work on the reduction of vocal use/abuse.

_____
DATE:

APPENDIX C

Daily Log of Specific Speaking Situations

	M	T	W	TH	F	SA	SU	Total Situation
Wake-up time to class								
Touching distance talking								
Conversation situations								
Cafeteria talking								
Telephone talking								
No unusual voices								
No yelling at brother								
TOTAL DAILY =								

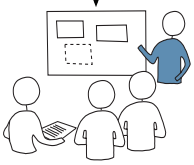
RATING SCALE
1 = always observe the rule
2 = most of the time observe the rule
3 = some of the time observe the rule
4 = do not observe the rule most of the time
5 = never observe the rule

SCORE RANGE
Excellent = 7–10
Good = 10–15
Average = 15–25
Below average = 25–30
Poor = 30–35

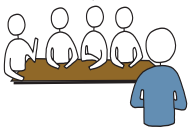
Protocol for Identification of Students** with Auditory Processing Disorders (APD)

Start

Undifferentiated Language or Learning Problem



Observation/Initial assessment (SLP/School Team)



CHAPPS completed by classroom teacher

TAPS-3 given in school setting by SLP

Language screen or assessment by SLP (includes hearing screening verification)

Other information (academic, psycho-educational, medical, etc.) considered

If analysis of results and information suggests possible APD....

Then

Team refers student to **District Audiologist** to complete diagnostic evaluation (all results and info provided to audiologist by School Team)

- Case History Form completed by parent
- Correlate Case History with school assessment info

Perform preliminary audiological testing for APD:

- Peripheral hearing evaluation
- SCAN - 3 or MAPA given

Perform add'l diagnostic tests (if indicated) for APD - may include:

- SSW
- RGDT
- other

- Evaluate all information
- Assess pattern

Audiologist sends report with findings and recommendations to School Team

Assessment Interpretation:

1. Based on multidisciplinary assessment, Does the student have APD?

2. What are the characteristics/profile of the APD?

3. What appropriate services/accommodations should be considered for the student?

**NOTE: Children should be 7 years of age or older when referred for this assessment protocol (due to test validity and design and other factors)

Frank E. Musiek, Pathways Editor

Determining candidacy for (central) auditory processing evaluations

By Kathleen Loftus West and Linda A. Guenette

In 2005, the American Speech-Language-Hearing Association (ASHA) convened a working group on auditory processing disorders that was charged with reviewing the ASHA technical report, *Central Auditory Processing: Current Status of Research and Implications for Clinical Practice*.[1] The group was asked to determine the best format for updating the topic for the membership, which resulted in the creation of a technical report.[1]

In the section on diagnosing (C)APD, the report highlighted test principles that should be applied in determining the composition of a (C)AP test battery. It recommended that the audiologist be sensitive to "attributes of the individual… [which may] include language development, motivational level, fatigability, attention, and other cognitive factors; the influence of mental age; cultural influences; native language; and socioeconomic factors." This statement emphasized the need to understand and control for confounding factors to test performance to ensure that the behavioral assessment of auditory processing skills accurately reflects central auditory function.

As audiology practices design and implement programs for assessing children with suspected (C)APD, an important component of the program is initial screening of referrals to determine candidacy for the behavioral (C)AP assessment. Who, then, are appropriate candidates for assessment? We propose that the following criteria be considered when determining candidacy.

AGE: Child must be 7 years or older

Interpretation of (C)AP test results involves comparison of the child's performance to chronological age mates. For populations below age 7, normative data on many available auditory processing tasks are either unavailable or poorly defined, due to the significant variation in maturation rates.

COGNITIVE STATUS: Child must have a normal overall IQ

For the audiologist to interpret findings of the (C)AP battery, the child must be compared with age mates. Children with cognitive function below the low-average range cannot be reliably compared with age mates.

LANGUAGE: Child must be proficient in English

All (C)AP tasks are administered in English and involve the presentation of degraded/altered speech materials. To complete these tasks, the child must have adequate knowledge in English.

HEARING: Child should have normal hearing bilaterally

Most available (C)AP tasks have been normed on persons with normal peripheral hearing sensitivity. When interpreting test results on a patient with hearing loss, the audiologist must take care to determine whether reduced performance reflects peripheral problems, central problems, or a combination.

SPEECH INTELLIGIBILITY: Child should not have a severe articulation disorder

Behavioral (C)AP tasks involve repetition of information (numbers, words, sentences). In a person with reduced speech intelligibility, it may be difficult to determine whether an incorrect response is a result of hearing the stimulus incorrectly or repeating the item incorrectly due to articulation issues.

EMOTIONAL STATUS: Child should not *be diagnosed with a severe emotional disorder*

Children with severe emotional and/or behavioral disorders may have difficulty attending to or completing standardized testing.

CONCLUSION

We recognize that there are cases when a child who does not fully meet criteria should still be considered for assessment, e.g., a child with permanent hearing loss or with uneven cognitive performance on standardized measures. It is most important in such cases to have a good understanding of how these factors affect the child's performance and influence test interpretation. These variations should also be clearly delineated in the subsequent report.

In summary, we propose that audiology programs that evaluate children with suspected (C)APD determine candidacy for each child by conducting a paper review prior to setting an appointment.

The goal of auditory processing assessment in children is accurate identification of those with (C)APD. Implementation of screening procedures to determine candidacy for evaluation is one important component of the identification process. This information can be used not only to determine candidacy for the testing, but also in interpreting the results and in forming an appropriate treatment plan for these individuals.

Kathleen Loftus West, MA, is Coordinator of Audiology Services at Children's Hospital Boston at Lexington, MA. She may be contacted at kathleen.west@childrens.harvard.edu. **Linda A. Guenette**, MA, is a lecturer and Clinical Supervisor of Audiology at the University of Connecticut, Storrs. She may be contacted at Linda.guenette@uconn.edu. **Frank Musiek**, PhD, Professor and Director of Auditory Research at the University of Connecticut, is editor of Pathways. He can be reached at frank.musiek@uconn.edu.

REFERENCE

1. American Speech-Language-Hearing Association: *(Central) Auditory Processing Disorders*. Available online at www.asha.orgh/members/deskref-journals/deskref/default, 2005.

Auditory Processing Disorders (APD)

Under IDEA and Utah State Special Education rules and regulations, there is no classification category for APD. Therefore, a student diagnosed with APD must also have an accompanying speech/language disorder and/or educational disability to qualify for Special Education services.

Many children with APD will also exhibit a significant language or articulation deficit. However, diagnostic assessment may reveal a delay that is not severe enough to qualify for therapy services under district guidelines. In such cases, students whose APD accompanies an educational disability (i.e., Learning Disability, etc.), can receive intervention through Resource placement. In such a scenario, the SLP and Audiologist may serve as consultants to the IEP Team, recommending the use of interventions such as HearBuilder®, Earobics®, or other appropriate materials from vendors such as The Speech Bin, Super Duper Publications, LinguiSystems, etc. The SLP/Audiologist can also assist other members of the IEP Team by suggesting accommodations and management strategies that will benefit the student with APD.

SUGGESTED CRITERIA TO REFER STUDENTS TO THE DISTRICT AUDIOLOGIST FOR FULL APD ASSESSMENT:

1. COGNITIVE ABILITY: IQ score of 90 or above.

2. CHAPPS: Raw Score in the "AT RISK" range (-12 to –130)

3. TAPS-3: Auditory Perceptual Quotient: ≤ 80 or, standard scores on three or more subtests < 80

4. Evidence of at least minimal language, articulation, literacy, or other academic/functional deficit based on screening or diagnostic assessment.

AUDIOLOGICAL TEST BATTERY SCORES SUGGESTIVE OF APD:

Test Name: **SCAN-3: Children and SCAN-3: Adolescents and Adults**		
Test Scaled Score	*Auditory Processing Composite Score*	*Descriptive Classification*
7 or above (≤ 1 SD below mean)	85 or above	Normal
4 to 6 (1-2 SD below mean)	70 to 84	Borderline
3 or below (≥ 2 SD below mean)	69 or below	Disordered
Atypical Ear Advantage scores with 15% or less cumulative prevalence		
Test Name: **Staggered Spondaic Word Test (SSW)**		
Result: C-SSW or A-SSW scores that fall at least into the "Mildly Abnormal" scoring category.		
Test Name: **MAPA, Random Gap Detection Test, Auditory Fusion Test-*Revised***		
Result: MAPA: ≥ 2 SDs below the mean on at least 1 test in at least 1 domain. RGDT, AFT: Abnormal avg. gap detection threshold for all tonal stimuli re: age-corrected normative data.		

Because of the complexity of APD, patterns may emerge when considering the many factors of test performance that are not necessarily revealed by the test scores alone. Also, it is essential that the scope of information about a student be carefully considered in order to achieve a diagnostic profile that effectively assists in classification and intervention decisions. The District Audiologist must evaluate all of the information provided by members of the IEP Team (to include parents), in addition to the results of the Audiological APD test battery. In this regard, a diagnosis of APD becomes, in effect, a Team diagnosis, with direct or specific guidance from the District Audiologist.

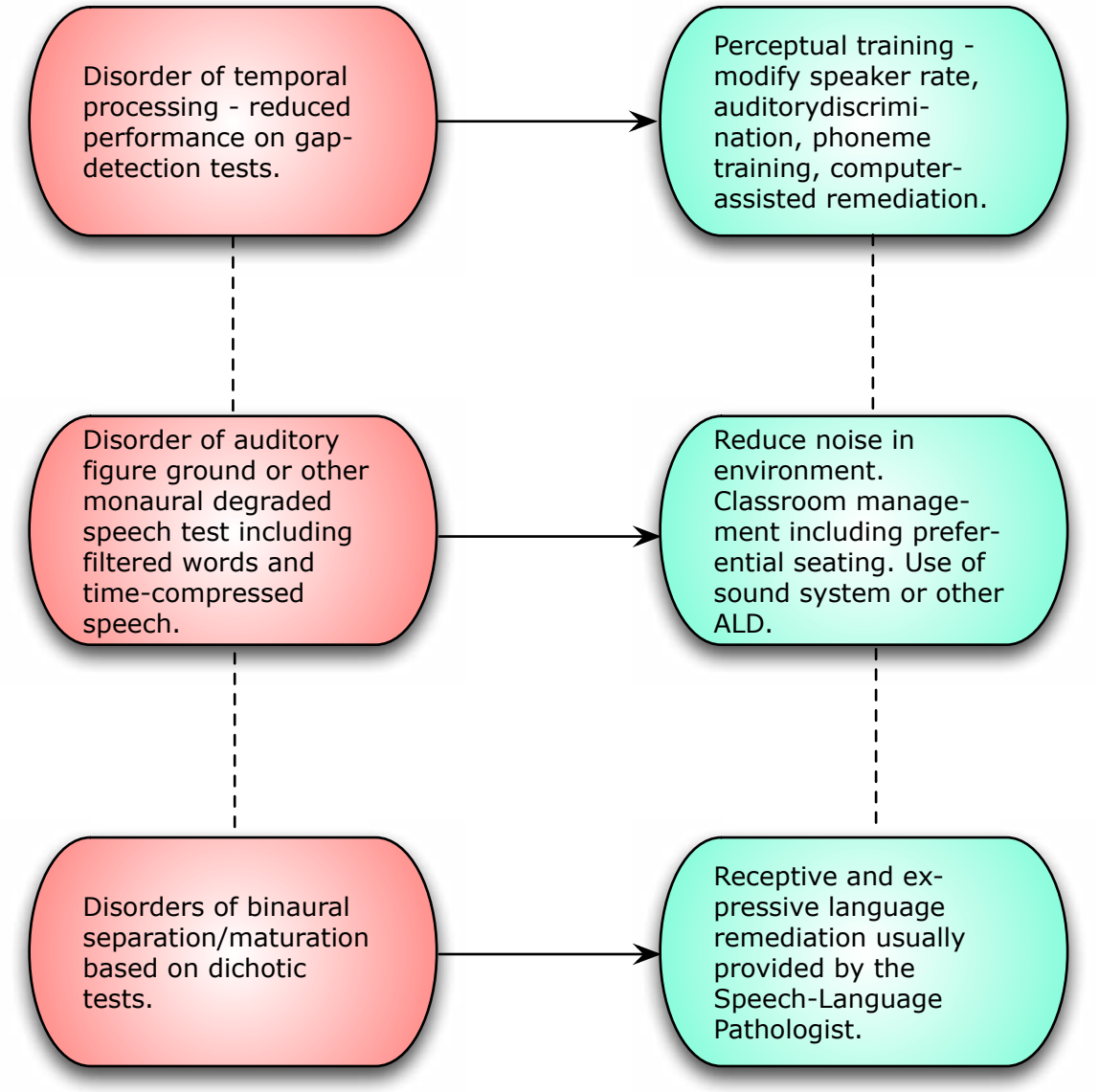
Differential Diagnosis Between Auditory Processing Disorders, Attention Deficit Disorders, and Speech-Language Impairments

Behavior	Auditory Processing Disorder	ADD/ ADHD	Speech-Language Impairment
Attention Concerns			
Distractibility	X	X	X
Difficulty listening	X	X	X
Difficulty understanding verbal information	X	X	
Poor attention to auditory detail	X	X	X
Poor attention to visual detail		X	
Forgetfulness of routines		X	
Short attention span		X	
Need for repetition of information	X	X	X
Appears to 'daydream'	X	X	
Appears to lack motivation	X	X	
Delayed response to verbal requests	X	X	X
Frequently says, "Huh?" or "What?"	X	X	X
Often misunderstands what is said	X	X	X
Poor short term memory	X	X	
Hyperactivity, Impulsivity and Emotional Concerns			
Fidgety – active hands and feet		X	
Often leaves seat		X	
Excessive movement		X	
Difficulty playing quietly		X	
Talks excessively		X	
Blurts out answers		X	
Restlessness	X	X	
Irritability		X	
Poor social interactions		X	X
Difficulty awaiting turn		X	
Interrupts or intrudes with others		X	X
Academic Achievement			
Difficulty following verbal instructions	X	X	X
Difficulty identifying, blending, and manipulating sounds	X		X
Poor receptive and expressive language skills	X		X
Deficits in reading, writing, or comprehension	X	X	X
Decreased performance in noisy environments	X	X	X
Difficulty completing work		X	
Worry about academic performance	X		X
Frequently looses or misplaces items		X	
Poor organizational skills		X	

Adapted from the following source:
From *Differential diagnosis between auditory processing disorders, attention deficit disorders, and speech-language impairment*, 2000, Chesterfield County Public Schools, Virginia. Used with permission.

Remediation Algorithm based on results of Auditory Processing Evaluation

Adapted from Keith and Fallis



Strategies to Improve Auditory Performance

Strategies for Teachers

Classroom Environment
- Reduction of noise/minimize distractions
- Preferential seating away from noise
- Use of classroom amplification system

Teaching Techniques
- Clear enunciation at a slow-moderate rate of speech
- Insert purposeful pauses between concept, let the words *hang in the air*
- Keep directions or commands short and simple and have student repeat directions
- Use praise often and be positive
- Provide visual cues during lecture/directions (such as written outline/directions)
- Provide repetition of oral information and steps of assignment
- Give breaks between intense concepts taught for comprehension
- Check for comprehension early/often and check knowledge of prerequisite information
- Preview and review concepts for lecture
- Offer short essay tests as an alternative to multiple choice
- Record lectures for repeated listening
- Offer closed captioning for videos
- Make connections with other material whenever possible – refer often to previous lessons
- Augment information, especially with visual materials (show film; look on web; find additional books about topic; act it out; recommend family activity; fieldtrip)

Peer Assistance
- Use of a positive peer partner for comprehension of directions or proofing work
- Use of cooperative learning groups
- Use of a note-taker

Assignment Modifications
- Allow extended time to complete assignments and/or tests
- Offer short essays as an alternative to multiple choice
- Provide visual instructions
- Preview language of concept prior to assignment
- Frequent checks for comprehension at pre-determined points
- Vary grading techniques

Strategies for Students

- Teach student use of visual cues to supplement auditory information
- Teach student use of short and long term memory techniques (i.e., rehearsal, chunking, mnemonics, visual imagery)
- Teach student to listen for meaning rather than every word
- Teach student active listening behaviors
- Teach student to advocate for themselves by asking frequent questions about the material, asking for multiple repetitions or requesting speaker to "write it down"
- Teach student organizational strategies for learning information
- Use of tape recorder for assignments and lecture
- Use of peer note-taker or electronic note-taker or word processor

Strategies for Parents

- Keep directions or commands short and simple
- Use praise often and be positive
- Use visuals or gestures at home to compensate for listening difficulties
- Assist the student in asking clarification questions and being their own advocate
- Preview and review classroom material and review tape recorded information

CHILDREN'S AUDITORY PROCESSING PERFORMANCE SCALE (CHAPPS)

Child's Name_____ Age (Years_____Months_____)
Date_____

Name of person
completing questionnaire_____ Relationship: Parent ____
Teacher_____
Other_____

PLEASE READ INSTRUCTIONS CAREFULLY

Answer all questions by comparing this child to other children of similar age and background. Do not answer the questions based only on the difficulty of the listening condition. For example, all 8-year-old children, to a certain extent, may not hear and understand when listening in a noisy room. That is, this would be a difficult listening condition for all children. However, some children may have more difficulty in this listening condition than others. You must judge whether or not this child has MORE difficulty than other children in each listening condition cited. Please make your judgment using the following response choices: (**CIRCLE** a number for each item.)

RESPONSE CHOICES:

LESS DIFFICULTY.	+1
SAME AMOUNT OF DIFFICULTY.	0
SLIGHTLY MORE DIFFICULTY.	-1
MORE DIFFICULTY.	-2
CONSIDERABLY MORE DIFFICULTY.	-3
SIGNIFICANTLY MORE DIFFICULTY.	-4
CANNOT FUNCTION AT ALL.	-5

Listening Condition - *NOISE:*
If listening in a room where there is background noise such as a TV set, music, others talking, children playing, etc., this child has difficulty hearing and understanding (compared with other children of similar age and background).

1. When paying attention. . . . . +1 0 -1 -2 -3 -4 -5
2. When being asked a question. . . . . +1 0 -1 -2 -3 -4 -5
3. When being given simple instructions. . . . . +1 0 -1 -2 -3 -4 -5
4. When being given complicated, multiple, instructions . . +1 0 -1 -2 -3 -4 -5
5. When not paying attention. . . . . +1 0 -1 -2 -3 -4 -5
6. When involved with other activities, i.e., coloring, reading, etc.. . . . . +1 0 -1 -2 -3 -4 -5
7. When listening with a group of children. . . . . +1 0 -1 -2 -3 -4 -5

Listening Condition - *QUIET:*
If listening in a quiet room (others may be present, but are being quiet), this child has difficulty hearing and understanding (compared with other children).

8. When paying attention. . . . . +1 0 -1 -2 -3 -4 -5

9. When being asked a question. . . . . +1 0 -1 -2 -3 -4 -5

10. When being given simple instructions. . . . . +1 0 -1 -2 -3 -4 -5

11. When being given complicated, multiple, instructions . . +1 0 -1 -2 -3 -4 -5

12. When not paying attention. . . . . +1 0 -1 -2 -3 -4 -5

13. When involved with other activities, i.e., coloring, reading, etc.. . . . . +1 0 -1 -2 -3 -4 -5

14. When listening with a group of children. . . . . +1 0 -1 -2 -3 -4 -5

Listening Condition - *IDEAL:*
When listening in a quiet room, no distractions, face-to-face, and with good eye contact, this child has difficulty hearing and understanding (compared with other children).

15. When being asked a question. . . . . +1 0 -1 -2 -3 -4 -5

16. When being given simple instructions. . . . . +1 0 -1 -2 -3 -4 -5

17. When being given complicated, multiple, instructions . . +1 0 -1 -2 -3 -4 -5

Listening Condition - *MULTIPLE INPUTS:*
When, in addition to listening, there is also some other form of input (i.e., visual, tactile, etc.), this child has difficulty hearing and understanding (compared with other children).

18. When listening and watching the speaker's face. . . . . +1 0 -1 -2 -3 -4 -5

19. When listening and reading material that is also being read out loud by another. . . . . +1 0 -1 -2 -3 -4 -5

20. When listening and watching someone provide an illustration such as a model, drawing, information on the chalkboard, etc.. . . . . +1 0 -1 -2 -3 -4 -5

Listening condition - *AUDITORY MEMORY/SEQUENCING:*
If required to recall spoken information, this child has difficulty (compared with other children).

21. Immediately recalling information such as a word, word spelling, numbers, etc.. . . . . +1 0 -1 -2 -3 -4 -5

22. Immediately recalling simple instructions. . . . . +1 0 -1 -2 -3 -4 -5

23. Immediately recalling multiple instructions. . . . . +1 0 -1 -2 -3 -4 -5

24. Not only recalling information, but also the *order* or *sequence* of the information. . . . . +1 0 -1 -2 -3 -4 -5

25. When delayed recollection (1 hour or more) of words, word spelling, numbers, etc. is required. . . . . +1 0 -1 -2 -3 -4 -5

26. When delayed recollection (1 hour or more) of simple instructions is required. . . . . +1 0 -1 -2 -3 -4 -5

27. When delayed recollection (1 hour or more) of multiple instructions is required. . . . . +1 0 -1 -2 -3 -4 -5

28. When delayed recollection (24 hours or more) is required . . . . . +1 0 -1 -2 -3 -4 -5

Listening Condition - *AUDITORY ATTENTION SPAN:*

If extended periods of listening are required, this child has difficulty paying attention, that is being attentive to what is being said (compared with other children).

29. When the listening time is less than 5 minutes. . . . . +1 0 -1 -2 -3 -4 -5

30. When the listening time is 5 to 10 minutes. . . . . +1 0 -1 -2 -3 -4 -5

31. When the listening time is over 10 minutes. . . . . +1 0 -1 -2 -3 -4 -5

32. When listening in a quiet room. . . . . +1 0 -1 -2 -3 -4 -5

33. When listening in a noisy room. . . . . +1 0 -1 -2 -3 -4 -5

34. When listening first thing in the morning. . . . . +1 0 -1 -2 -3 -4 -5

35. When listening near the end of the day, before supper time. . . . . +1 0 -1 -2 -3 -4 -5

36. When listening in a room where there are also visual distractions. . . . . +1 0 -1 -2 -3 -4 -5

CHILDREN'S AUDITORY PROCESSING PERFORMANCE SCALE

Performance Analysis (To Be Completed by SLP or Audiologist)

_______________________________________ __Parent __Teacher _________
Client Last Name M.I. First Date

______Pre Diagnostic______Pre Therapy ______Post Therapy _____Other:__________

List dates of previous CHAPPS results____

Client age in months (current years ________ X 12 + current months ________) = ___________

INSTRUCTIONS:

1. Enter total raw scores for EACH of the six subsections in the RAW SCORE column. Be careful to take into account the "+" or "-" values when adding.
2. Divide each subsection raw score by the indicated number and enter the result in the AVERAGE SCORE column. Retain the proper sign "+" or "-".
3. Total RAW SCORE and total AVERAGE SCORE are obtained by adding the subsection scores, retaining the proper signs.

SUBSECTION	RAW SCORE	divided by	AVERAGE SCORE (2 decimals)	(comments)
Noise	________________	7	________________	
Quiet	________________	7	________________	
Ideal	________________	3	________________	
Multiple	________________	3	________________	
Memory	________________	8	________________	
Attention	________________	8	________________	
TOTAL	________________	36	________________	

(Raw Score range for: NORMALS (+36 to -11); AT RISK (-12 to -130)

* *

CHAPPS SUBSECTION ANALYSIS

Enter "X" at AVERAGE Score (round to nearest 0.5)

	NOISE	QUIET	IDEAL	MULTIPLE	MEMORY	ATTENTION	TOTAL
+1.0	-	-	-	-	-	-	-
+0.5	-	-	-	-	-	-	-
0.0	-	-	-	-	-	-	-
-0.5	-	-	-	-	-	-	-
(Normal Range)							
-1.0	--						
(Below Normal Range)							
-1.5	-	-	-	-	-	-	-
-2.0	-	-	-	-	-	-	-
-2.5	-	-	-	-	-	-	-
-3.0	-	-	-	-	-	-	-
-3.5	-	-	-	-	-	-	-
-4.0	-	-	-	-	-	-	-
-4.5	-	-	-	-	-	-	-
-5.0	-	-	-	-	-	-	-

American Speech-Language-Hearing Association

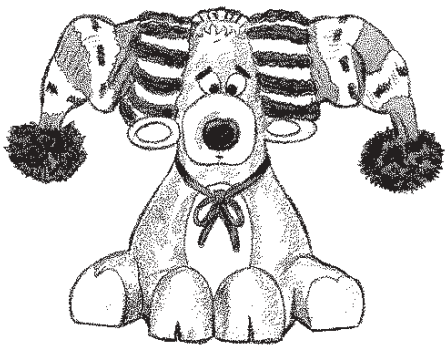
AUDIOLOGY INFORMATION SERIES

ASHA'S CONSUMER NEWSLETTER

Understanding Auditory Processing Disorders in Children

by Teri James Bellis, PhD, CCC-A

In recent years, there has been a dramatic upsurge in professional and public awareness of Auditory Processing Disorders (APD), also referred to as Central Auditory Processing Disorders (CAPD). Unfortunately, this increase in awareness has resulted in a plethora of misconceptions and misinformation, as well as confusion regarding just what is (and isn't) an APD, how APD is diagnosed, and methods of managing and treating the disorder. The term auditory processing is often used loosely by individuals in many different settings to mean many different things, and the label APD has been applied (often incorrectly) to a wide variety of difficulties and disorders. As a result, there are some who question the existence of APD as a distinct diagnostic entity and others who assume that the term APD is applicable to any child or adult who has difficulty listening or understanding spoken language. The purpose of this article is to clarify some of these key issues so that readers are better able to navigate the jungle of information available on the subject in professional and popular literature today.



Terminology and Definitions

In its very broadest sense, APD refers to how the central nervous system (CNS) uses auditory information. However, the CNS is vast and also is responsible for functions such as memory, attention, and language, among others. To avoid confusing APD with other disorders that can affect a person's ability to attend, understand, and remember, it is important to emphasize that APD is an auditory deficit that is not the result of other higher-order cognitive, language, or related disorders.

There are many disorders that can affect a person's ability to understand auditory information. For example, individuals with Attention Deficit/Hyperactivity Disorder (ADHD) may well be poor listeners and have difficulty understanding or remembering verbal information; however, their actual neural processing of auditory input in the CNS is intact. Instead, it is the attention deficit that is impeding their ability to access or use the auditory information that is coming in. Similarly, children with autism may have great difficulty with spoken language comprehension. However, it is the higher-order, global deficit known as autism that is the cause of their difficulties, not a specific auditory dysfunction. Finally, although the terms language processing and auditory processing sometimes are used interchangeably, it is critical to understand that they are not the same thing at all.

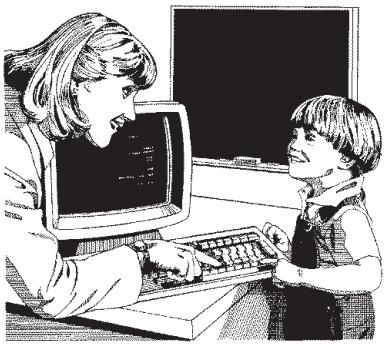
For many children and adults with these disorders and others–including mental retardation and sensory integration dysfunction–the listening and comprehension difficulties we often see are due to the higher-order, more global, or all-encompassing disorder and not to any specific deficit in the neural processing of auditory stimuli per se. As such, it is not correct to apply the label APD to these individuals, even if many of their behaviors appear very similar to those associated with APD. In some cases, however, APD may co-exist with ADHD or other disorders. In those cases, only careful and accurate diagnosis can assist in disentangling the relative effects of each.

No matter how successful a particular therapy approach may have been for another child, it does not mean that it will be effective for your child.

Diagnosing APD

Children with APD may exhibit a variety of listening and related complaints. For example, they may have difficulty understanding speech in noisy environments, following directions, and discriminating (or telling the difference between) similar-sounding speech sounds. Sometimes they may behave as if a hearing loss is present, often asking for repetition or clarification. In school, children with APD may have difficulty with spelling, reading, and understanding information presented verbally in the classroom. Often their performance in classes that don't rely heavily on listening is much better, and they typically are able to complete a task independently once they know what is expected of them. However, it is critical to understand that these same types of symptoms may be apparent in children who do not exhibit APD. Therefore, we should always keep in mind that not all language and learning problems are due to APD, and all cases of APD do not lead to language and learning problems. APD cannot be diagnosed from a symptoms checklist. No matter how many symptoms of APD a child may have, only careful and accurate diagnostics can determine the underlying cause.

A multidisciplinary team approach is critical to fully assess and understand the cluster of problems exhibited by children with APD. Thus, a teacher or educational diagnostician may shed light on academic difficulties; a psychologist may evaluate cognitive functioning in a variety of different areas; a speech-language pathologist may investigate written and oral language, speech, and related capabilities; and so forth. Some of these professionals may actually use test tools that incorporate the terms "auditory processing" or "auditory perception" in their evaluation, and may even suggest that a child exhibits an "auditory processing disorder." Yet it is important to know that, however valuable the information from the multidisciplinary team is in understanding the child's overall areas of strength and weakness, none of the test tools used by these professionals are diagnostic tools for APD, and the actual diagnosis of APD must be made by an audiologist.



The key to appropriate treatment is accurate and careful diagnosis by an audiologist.

To diagnose APD, the audiologist will administer a series of tests in a sound-treated room. These tests require listeners to attend to a variety of signals and to respond to them via repetition, pushing a button, or in some other way. Other tests that measure the auditory system's physiologic responses to sound may also be administered. Most of the tests of APD require that a child be at least 7 or 8 years of age because the variability in brain function is so marked in younger children that test interpretation may not be possible.

Once a diagnosis of APD is made, the nature of the disorder is determined. There are many types of auditory processing deficits and, because each child is an individual, APD may manifest itself in a variety of ways. Therefore, it is necessary to determine the type of auditory deficit a given child exhibits so that individualized management and treatment activities may be recommended that address his or her specific areas of difficulty.

Treating APD

It is important to understand that there is not one, sure-fire, cure-all method of treating APD. Notwithstanding anecdotal reports of "miracle cures" available in popular literature or on the Internet, treatment of APD must be highly individualized and deficit-specific. No matter how successful a particular therapy approach may have been for another child, it does not mean that it will be effective for your child. Therefore, the key to appropriate treatment is accurate and careful diagnosis by an audiologist.

Treatment of APD generally focuses on three primary areas: changing the learning or communication environment, recruiting higher-order skills to help compensate for the disorder, and remediation of the auditory deficit itself. The primary purpose of environmental modifications is to improve access to auditorily presented information. Suggestions may include use of electronic devices that assist listening, teacher-oriented suggestions to improve delivery of information, and other methods of altering the learning environment so that the child with APD can focus his or her attention on the message.

Compensatory strategies usually consist of suggestions for assisting listeners in strengthening central resources (language, problem-solving, memory, attention, other cognitive skills) so that they can be used to help overcome the auditory disorder. In addition, many compensatory strategy approaches teach children with APD to take responsibility for their own listening success or failure and to be an active participant in daily listening activities through a variety of active listening and problem-solving techniques.

Finally, direct treatment of APD

seeks to remediate the disorder, itself. There exists a wide variety of treatment activities to address specific auditory deficits. Some may be computer-assisted, others may include one-on-one training with a therapist. Sometimes home-based programs are appropriate whereas others may require children to attend therapy sessions in school or at a local clinic. Once again, it should be emphasized that there is no one treatment approach that is appropriate for all children with APD. The type, frequency, and intensity of therapy, like all aspects of APD intervention, should be highly individualized and programmed for the specific type of auditory disorder that is present.

The degree to which an individual child's auditory deficits will improve with therapy cannot be determined in advance. Whereas some children with APD experience complete amelioration of their difficulties or seem to "grow out of" their disorders, others may exhibit some residual degree of deficit forever. However, with appropriate intervention, all children with APD can learn to become active participants in their own listening, learning, and communication success rather than hapless (and helpless) victims of an insidious impairment. Thus, when the journey is navigated carefully, accurately, and appropriately, there can be light at the end of the tunnel for the millions of children afflicted with APD.

It is important to emphasize that APD is an auditory deficit that is not the result of other higher-order cognitive, language, or related disorders.

Key Points:

- APD is an auditory disorder that is not the result of higher-order, more global deficit such as autism, mental retardation, attention deficits, or similar impairments.
- Not all learning, language, and communication deficits are due to APD.
- No matter how many symptoms of APD a child has, only careful and accurate diagnosis can determine if APD is, indeed, present.
- Although a multidisciplinary team approach is important in fully understanding the cluster of problems associated with APD, the diagnosis of APD can only be made by an audiologist.
- Treatment of APD is highly individualized. There is no one treatment approach that is appropriate for all children with APD.

To locate an audiologist in your area, contact the American Speech-Language-Hearing Association at www.asha.org or 800-638-8255. More detailed information about APD for general readers is available in *When the Brain Can't Hear: Unraveling the Mystery of Auditory Processing Disorder* by Teri James Bellis (2002, Pocket Books), available online or at bookstores everywhere.

For more information about hearing loss, hearing aids, or referral to an ASHA-certified audiologist, contact the:

American Speech-Language-Hearing Association

10801 Rockville Pike
Rockville, MD 20852
1-800-638-8255 (Voice or TTY)
Email: actioncenter@asha.org
Website: www.asha.org

Compliments of
American Speech-Language-Hearing Association
10801 Rockville Pike • Rockville MD • 20852 • 800-638-8255
and

Behavioral Symptoms that Differentiate (C)APD vs. ADHD

(Chermak et al 2002, 1998)

An exclusive set of behaviors are indicated that differentiate APD and ADHD of the predominantly inattentive type:

APD	ADHD
Difficulty hearing in background noise	Inattentive
Difficulty following oral instructions	Distracted
Poor listening skills	Hyperactive
Academic difficulties	Fidgety or restless
Poor auditory association skills	Hasty or impulsive
Distracted	Interrupts or intrudes
Inattentive	

**Co-morbidity may "cloud" the diagnosis. High incidence with other disorders such as speech/language disorders and learning disabilities

APD	ADHD
INPUT Disorder	OUTPUT Disorder
Attention deficits are *secondary*	Management *may* include medication
Bottom-up Processing approaches recommended	*Top-down Processing* approaches recommended

Bottom-Up Processing

Intervention approaches:

1. Strategies to enhance the acoustic signal

2. Train specific auditory skills

Examples:

- Use of amplification
- Preferential seating
- Integration of skills training into therapy plan (i.e., auditory memory, discrimination, phonemic awareness, etc.)

Top-Down Processing

Intervention emphasizes compensatory strategies designed to minimize impact of ADHD/ADD through strengthening higher-order cognitive, metacognitive, and language (including memory and attention)

Examples:

- Teaching self-advocacy
- Pre-tutoring of vocabulary
- Note-taking
- visualization of auditory information
- Appropriate testing accommodations
- Developing integration/organization/ categorization skills
- Improving listening comprehension

Culturally and Linguistically Diverse Bilingual Speaker Teacher/Staff Input for Phonology/Articulation

Student's Name: _____ Date: _____

Teacher/Staff: _____/_____ Grade: _____

Dialect variation: _____Language at home/school: _____/_____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank You.

Please answer by circling N (Never); S (Sometimes); F (Frequently); A (Always)

Is it difficult to understand this student in his/her primary language?	N	S	F	A
Is it difficult to understand in his/her primary language with known context?	N	S	F	A
When speaking in his/her primary language does this student delete sounds?	N	S	F	A
When speaking in his/her primary language does this student distort sounds?	N	S	F	A
When speaking in his/her primary language does this student produce some sounds inappropriately?	N	S	F	A
Is this student aware of his/her speech difficulty?	N	S	F	A
Does this student appear to be frustrated by his/her speech difficulty?	N	S	F	A
Does this student seem to avoid speaking in his/her primary language?	N	S	F	A
Does this student seem to avoid speaking in English?	N	S	F	A
Are this student's parents concerned about his/her articulation skills?	N	S	F	A
Do this student's articulation difficulties impact his/her reading, writing, or other academic skills?	N	S	F	A
Do this student's articulation difficulties impact him/her socially and/or vocationally?	N	S	F	A
Does this student demonstrate language difficulties in their native language?	N	S	F	A
Does this student demonstrate narrative language difficulties in their primary language comparative of their peers?	N	S	F	A
Does this student receive teacher provided support in the classroom?	N	S	F	A
Is this student unable to repeat single words so that his/her speech is understood in his/her primary language?	N	S	F	A
Does this student have difficulty initiating verbal interactions with peers?	N	S	F	A
Does this student have difficulty initiating or organizing play activities with peers?	N	S	F	A

What strategies have you found to be useful for developing academic success for this student?

What support services have been provided for this student in the classroom?

Comments:

_____

Signature/Title Date

Culturally and Linguistically Diverse
Teacher Input for Language

Student's Name: _____ Date_____

Teacher: _____ Grade: _____

Language spoken at home/school: _____ / _____

Please assign values based on observations of this student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.

Does your child have difficulty with the following:

Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

Do you have concerns with this student's communication in the classroom?	N	S	F	A
Are the student's difficulties the result of adaptation to a different culture in the classroom environment?	N	S	F	A
Does this student appear to be going through a "silent period"?	N	S	F	A
Does this student appear to be comfortable using English in social contexts?	N	S	F	A
Does this student appear to be comfortable using their primary language in social contexts?	N	S	F	A
Does this student appear to be comfortable using English in academic contexts?	N	S	F	A
Does this student appear to be comfortable using their primary language in academic contexts?	N	S	F	A
Does this student demonstrate that language dominance has been established?	N	S	F	A
Do this student's communication skills compare equally with peers of the same linguistic background?	N	S	F	A
Does this student initiate verbal interactions with peers of the same linguistic background?	N	S	F	A
Does this student initiate verbal interactions with peers of different linguistic backgrounds?	N	S	F	A
Does this student initiate or organize play activities with peers of the same linguistic background?	N	S	F	A
Does this student initiate or organize play activities with peers of different linguistic backgrounds?	N	S	F	A
Does this student demonstrate facial eye contact and gestures deemed culturally appropriate by peers of the same linguistic background?	N	S	F	A
Does this student demonstrate facial eye contact and gestures deemed culturally appropriate by peers of different linguistic backgrounds?	N	S	F	A

Does this student receive ESL support in/out of the classroom? _____Yes _____No

How has that support benefited this student?

What intervention measures have you tried? Have they been effective?

Comments:

_____

Teacher Signature Date

Culturally and Linguistically Diverse
Parent Input Form

Student's Name: _____ Date: _____ Grade: _____
Parent's Name:_____ Teacher's Name: _____
Person Interviewing: _____ Interpreter: _____
Please assign values based on observations of student. Assign the most appropriate value based on child's **actual ability**, and add any comments. Thank you.
Please answer by circling N (Never), S (Sometimes), F (Frequently), A (Always)

How often does your child speak English at home?	N	S	F	A
How often does your child speak their first language at home?	N	S	F	A
How often does your child hear English at home?	N	S	F	A
How often does your child hear their first language at home?	N	S	F	A
How often does your child talk with people who speak English outside of the home?	N	S	F	A
How often does your child talk with people who speak their first language outside of the home?	N	S	F	A
How often do you have difficulty understanding what your child is saying because of poor pronunciation when they are speaking English?	N	S	F	A
How often do you have difficulty understanding what your child is saying because of poor pronunciation when they are speaking their first language?	N	S	F	A
How often do other children make fun of your child when they speak English?	N	S	F	A
How often do other children make fun of your child when they speak their first language?	N	S	F	A
How often do adults have difficulty understanding what the child says when they speak English?	N	S	F	A
How often do adults have difficulty understanding what the child says when they speak their first language?	N	S	F	A
How often does your child use incomplete sentences when they speak English?	N	S	F	A
How often does your child use incomplete sentences when they speak their first language?	N	S	F	A
How often does your child have difficulty following directions when they are given in English?	N	S	F	A
How often does your child have difficulty following directions when they are given in their first language?	N	S	F	A
How often does your child use gestures to communicate in English?	N	S	F	A
How often does your child use gestures to communicate in their first language?	N	S	F	A
How often does your child have difficulty relating to children who speak English?	N	S	F	A
How often does your child have difficulty relating to children who speak their first language?	N	S	F	A
How often does your child have difficulty beginning verbal interactions with other children?	N	S	F	A
How often does your child have difficulty using appropriate facial expressions, eye contact, gestures?	N	S	F	A
How often does your child have difficulty when organizing play activities with other children?	N	S	F	A
How often does your child have difficulty telling stories that are similar to other children's?	N	S	F	A
How often does your child pause, repeat words or parts of words when they speak English?	N	A	F	A
How often does your child pause, repeat words or parts of words when they speak their first language?	N	A	F	A

At what age did your child begin speaking their first language? _____

At what age was your child exposed to English? _____

What language is used most often by your child at home? _____

What language is used most often by your child's brothers, sisters, friends? _____

What language do you use most often when you talk to your child? _____

What language do you use most often when you talk to your spouse? _____

How do your child's communication skills compare with those of younger siblings? _____

How does your child's speaking ability compare with other children? _____

Has your child's voice ever sounded strained, hoarse, raspy, or have a nasal voice quality? If yes, When and for how long?

How do you feel about your child's speaking ability? _____

_____

Parent Signature Date

Aportación para los Padres
Diversidad Cultural y Linguistica

Nombre del Estudiante: _____ **Fecha**: _____ **Grado**: _____
Nombre de los Padres: _____ Nombre de la Maestra: _____
Persona Entrevistada: _____ Interprete: _____

Por favor asigne un valor basado en observaciones al estudiante. Asigne el valor mas' apropiado basado en **las habilidades actuales** Del niño/a y mencione cualquier comentario. Gracias.
Por favor conteste circulando N (Nunca), A (Algunas veces), F (Frecuentemente), S (Siempre)

¿Que tan frecuente habla Ingles su niño en la casa?	N	A	F	S
¿Que tan frecuente habla su primer idioma su niño en la casa?	N	A	F	S
¿Que tan frecuente escucha su niño Ingles en la casa?	N	A	F	S
¿Que tan frecuente escucha su niño su primer idioma en la casa?	N	A	F	S
¿Que tan frecuente su niño habla con personas que hablan Ingles afuera de la casa?	N	A	F	S
¿Que tan frecuente su niño habla con personas que hablan su primer idioma afuera de la casa?	N	A	F	S
¿Que tan frecuente usted tiene dificultad para entender lo que su niño le esta diciendo por que tiene una pronunciación muy pobre cuando habla en Ingles?	N	A	F	S
¿Que tan frecuente usted tiene dificultad para entender lo que su niño le esta diciendo por que tiene una pronunciación muy pobre cuando habla su primer idioma?	N	A	F	S
¿Que tan frecuente otros niños se burlan de su niño cuando habla Ingles?	N	A	F	S
¿Que tan frecuente otros niños se burlan de su niño cuando habla su primer idioma?	N	A	F	S
¿Que tan frecuente los adultos tienen dificultad para entender que dice su niño cuando habla Ingles?	N	A	F	S
¿Que tan frecuente los adultos tienen dificultad para entender que dice su niño cuando habla su primer idioma?	N	A	F	S
¿Que tan frecuente su niño usa oraciones incompletas cuando habla Ingles?	N	A	F	S
¿Que tan frecuente su niño usa oraciones incompletas cuando habla su primer idioma?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para seguir instrucciones que le son dadas en Ingles?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para seguir instrucciones que le son dadas en su primer idioma?	N	A	F	S
¿Que tan frecuente su niño usa gestos para comunicarse en Ingles?	N	A	F	S
¿Que tan frecuente su niño usa gestos para comunicarse en su primer idioma?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para relacionarse con otros niños que hablan Ingles?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para relacionarse con otros niños que hablan su primer idioma?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para iniciar una interacción verbal con otros niños?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para usar expresiones faciales apropiadamente, contacto con los ojos o gestos?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para organizar una actividad de juego con otros niños?	N	A	F	S
¿Que tan frecuente su niño tiene dificultad para decir historias que son similares a las de otros niños?	N	A	F	S
¿Que tan frecuente su niño hace pausas, repite o dice solo parte de las palabras cuando habla su primer idioma?	N	A	F	S
¿Que tan frecuente su niño hace pausas, repite o dice solo parte de las palabras cuando habla Ingles?	N	A	F	S

¿A que edad su niño empezo a hablar su primer idioma? _____

¿A que edad fue expuesto a su niño al idoma Ingles? _____

¿Cual idioma es mas' hablado por su niño en la casa? _____

¿Cual idioma es mas' hablado por los hermanos, hermanas o amigos de su niño? _____

¿Cual idioma le habla usted a su niño en la casa? _____

¿Cual idioma le habla usted mas con su esposo? _____

¿Como se comparan las habilidades de comunicación de su niño a las habilidades de sus hermanos? _____

¿Como son las habilidades para hablar de su niño comparados con otros niños? _____

¿Su niño alguna vez le ha sonado la voz tensa, ronca o mormada? ¿Si responde que si, cuando y por cuanto tiempo?

_____

¿Como padre como se siente usted acerca de la habilidad que tiene su niño para hablar? _____

_____

Firma del Padre Fecha

Culturally and Linguistically Diverse
Teacher Interview for Language

Student: _____ Date: _____

Teacher: _____Grade: _____

Dialect variation: _____ Language at home/school: _____ / _____

What are your major concerns with the student's communication in the classroom? _____

_____

Give examples of concerns: _____

Are the student's difficulties, the result of adaptation to a different culture in the classroom environment? ___ Yes ____No

Students in the beginning stage of learning another language may be in what is called the "silent period." How long has the student been exposed to the second language? _____

What language does the student feel comfortable using in social contexts? _____

What language does the student feel comfortable using in academic contexts? _____

Has language dominance been determined? (From parents' perspective, or bilingual staff's perspective?) ___ Yes ____No Comments: _____

Does the student receive ESL support in/out of the classroom? ____ Yes ____ No

How has that support benefited the student's learning in your classroom? _____

_____

What other intervention measures have you tried? _____

_____

Did the interventions work? How long has the intervention program been in place? _____

Has the student participated in reading interventions? ____ Yes _____ No

How do the student's communication skills compare with other students with his or her linguistic background? _____

Does the student initiate verbal interactions with peers? _____Yes ____No

Does the student initiate or organize play activities with peers? ____ Yes ___No

Does the student demonstrate facial, eye contact, and gestures deemed culturally appropriate by peers? ___ Yes ___No Describe: _____

Comprehensive Bilingual Classroom Communication Profile
Teacher Interview by SLP

Student's Name: _____ Date: _____

Teacher's Name: _____ Grade: _____

Parent's Name: _____ Birthdate/Age: _____

Speech-Language Pathologist's Name: _____

Language spoken at home/school: _____ / _____

Background Information – The first step in using the Bilingual Classroom Communication Profile (BCCP) is to collect information about the student's background:

1. Names of individuals residing in the home with the student and their relationship to the student.

2. Countries where the student has resided. The time period of residence should be recorded for each country listed.

3. First language or languages learned by the student.

4. Language used most often by the student both at home and at school.

5. Individuals who are responsible for caring for the student. The name, relationship to the student, and language(s) spoken by each of these individuals should be recorded.

6. Date and circumstances in which the student was first exposed to English.

7. Previous schools attended, location of these schools and dates of attendance.

Health Information:

1. Specific health concerns:

2. Results of hearing and vision screening tests:

Instructional Strategies: Special programs in the regular classroom that are available to students (e.g., tutors, ESL, etc.) and classroom modifications made to accommodate the student (e.g., preferential seating, special materials used, etc.)

Classroom Language Use: – The student's performance in this section of the BCCP is evaluated by asking the parent/teacher to respond "Yes", or "No", or "I don't know" to each item. Performance is evaluated separately in English and in the home language.

1. Answers simple questions about everyday activities
2. Communicates basic needs to others
3. Interacts appropriately and successfully with peers
4. Tells a simple story, keeping the sequence and basic facts accurate
5. Describes familiar objects and events
6. Maintains a conversation appropriately

School Social Interaction Problems: A plus (+) is recorded on the record form for each statement that describes the child accurately, and a minus (-) is recorded for each statement that is false. Responses should be based on observations of the student during interactions with peers from a similar cultural and linguistic background.

1. Communicates ineffectively with peers in both English and the home language
2. Often plays alone
3. Is ridiculed or teased by others
4. Is often excluded from activities by peers
5. Does not get along well with peers

Language and Learning Problems: The parent/teacher indicates areas of concern by responding "Yes", or "No", or "I don't know" to each item.

Items 1-10 in this sections provide an "overall performance summary."

1. Appears to have difficulty communicating in English
2. Appears to have difficulty communicating in the primary language
3. Has difficulty learning when instruction is provided in English
4. Has difficulty learning when instruction is provided in the primary language
5. Acquires new skills in English more slowly than peers
6. Acquires new skills in the primary language more slowly than peers
7. Shows academic achievement significantly below his/her academic English language proficiency, as assessed by an ESL or bilingual professional
8. Is not learning as quickly as peers who have had similar language experiences and opportunities for learning
9. Has a family history of learning problems or special education concerns
10. Parents state that student learns language more slowly than siblings

Items 11 through 26 are used to pinpoint specific problems observed.

11. Rarely initiates verbal interaction with peers
12. Uses gestures and other nonverbal communication (on a regular basis) rather than speech to communicate
13. Is slow to respond to questions and/or classroom instructions
14. Is not able to stay on a topic: conversation appears to wander
15. Often gives inappropriate responses

16. Appears to have difficulty remembering things
17. Does not take others' needs or preferences into account
18. Has difficulty conveying thoughts in a clear, organized manner
19. Appears disorganized much of the time
20. Appears confused much of the time
21. Has difficulty paying attention even when material is understandable and presented using a variety of modalities
22. Has difficulty following basic classroom directions
23. Has difficulty following everyday classroom routines
24. Requires more prompts and repetition than peers to learn new information
25. Requires a more structured program of instruction than peers
26. Has gross and/or fine motor problems

Environmental Influences and Language Development: The parent/teacher indicates areas of concern by responding "Yes", "No", or "I Don't Know" to each item on the record form.

1. Has the student had frequent exposure to literacy-related materials (e.g., books) in the primary language?
2. Has the student had sufficient exposure to the primary language to acquire a well-developed vocabulary in that language?
3. Was the student a fluent speaker of the primary language when he/she was first exposed to English?
4. Have the student's parents been encouraged to speak and/or read in the primary language at home?
5. Has the student's primary language been maintained in school through bilingual education, tutoring or other language maintenance activities?
6. Does the student show an interest in interacting in his/her primary language?
7. Has a loss of proficiency in the primary language occurred because of limited opportunities for continued use of that language?
8. Does the student have frequent opportunities to speak English during interactions with peers at school?
9. Has the student had frequent opportunities to visit libraries, museums, and other places in the community where opportunities for language enrichment and learning are available?
10. Has the student had frequent, long-term opportunities to interact with fluent English speakers outside of the school environment?

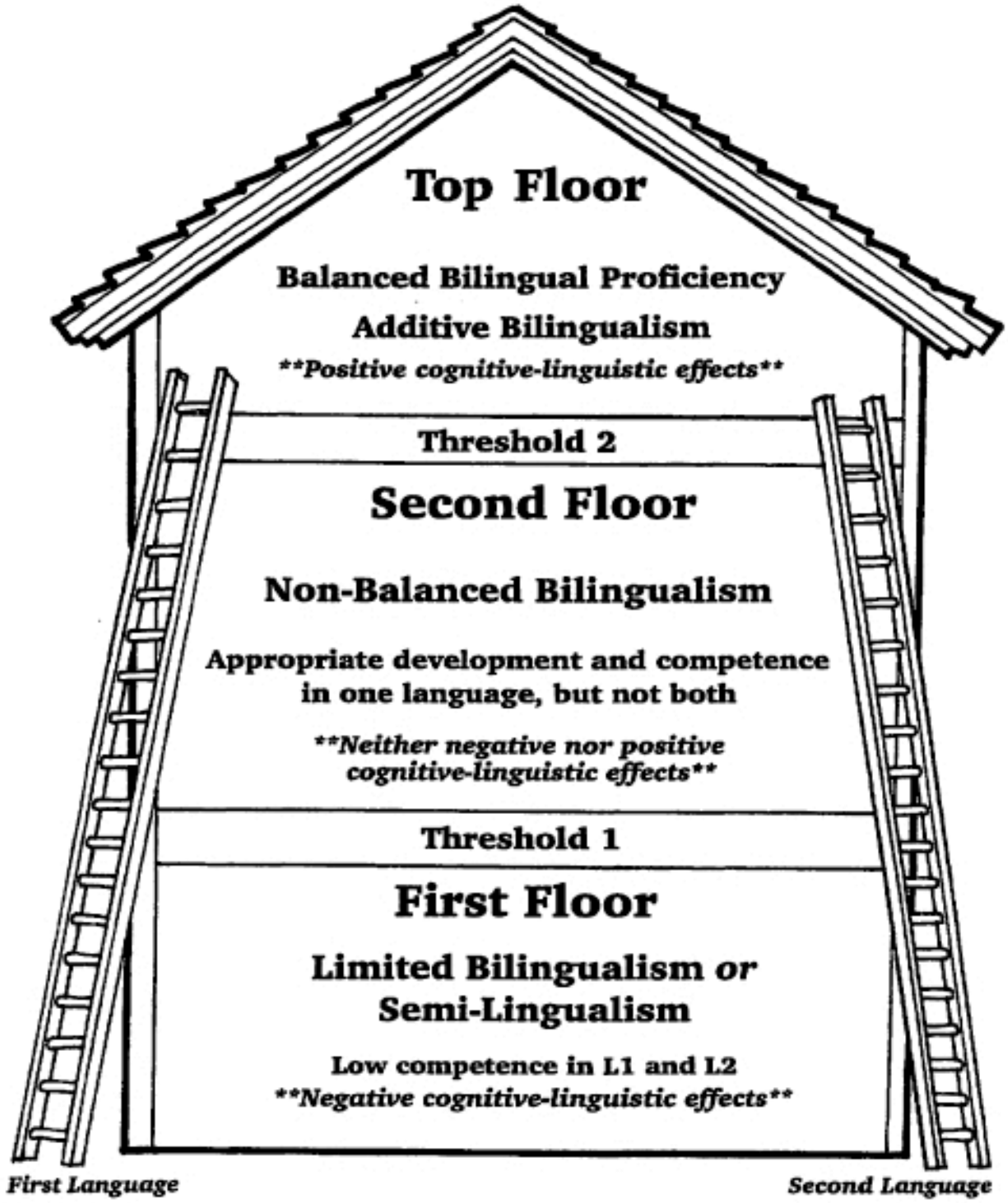
Impressions from Classroom Observations: The teacher is asked to respond to questions designed to elicit descriptive information about the child's performance.

1. To what extent does the student have difficulty learning in school because of limited proficiency in English?
2. Do you feel that this student requires a different type of instructional program than other students who have had similar cultural and linguistic experiences? Please explain.
3. Briefly summarize the communication and learning problems observed in the school setting.

Stages of Second Language Acquisition

Developmental Stage	Characteristics
Silent/Receptive Stage Basic Interpersonal Communication Skills (BICS)	• Hesitant, often confused and unsure • Limited comprehension, that is indicated nonverbally through gestures and actions • Student begins to associate sound and meaning in the new language • Student begins to develop listening skills
Early Production Stage Basic Interpersonal Communication Skills (BICS)	• Yes/no responses • One word verbal responses advancing to groupings of two or three words • Focus is on key words and contextual clues • Improving comprehension skills • Relates words to environment
Speech Emergence Basic Interpersonal Communication Skills (BICS)	• Transition from short phrases to simple sentences • Errors of omission and in grammar • Continuing mispronunciation
Intermediate Fluency Basic Interpersonal Communication Skills (BICS)	• Transition to more complex sentences • Students engage in conversation and produce connected vocabulary • Errors more common as student uses language for more purposes • Grammar not firmly acquired • Extensive vocabulary development
Advanced Fluency Basic Interpersonal Communication Skills (BICS) ***transitioning*** to Cognitive Academic Language Proficiency (CALP)	• Student can interact extensively with native speakers • Student has higher levels of comprehension, though not advanced enough for cognitively-challenging academic tasks • Few errors in grammar

Thresholds of Bilingual Development



Adapted from the following source.
From *Multicultural Students With Special Language Needs (2nd ed),* by Celeste Roseberry-McKibbin,2002, Copyright holder Academic Communication Associates, Inc., C. Reprinted by permission.

Language Proficiency Misdiagnosis Model

ADEQUATE BICS

Basic Interpersonal Communication Skills (BICS) takes approximately 2 years to develop to native-like level under optimal conditions.

The child can:

- Use English phrases, chunks
- Carry on intelligible conversations about context-embedded, cognitively undemanding topics (e.g., TV, classroom activities, friends, family)
- Interact with English-speaking peers
- Pass simple, "BICS-oriented" language proficiency tests

Inappropriate diagnosis

Special Education Referral

Special Education Placement:

* resource room

* special day class

Appropriate diagnosis

Bilingual Education, Sheltered English, ESL

-BICS/CALP GAP

INADEQUATE CALP

Cognitive-Academic Language Proficiency (CALP) takes between 5 and 7 years to develop to native-like level under optimal conditions.

The child with developing CALP may have difficulty:

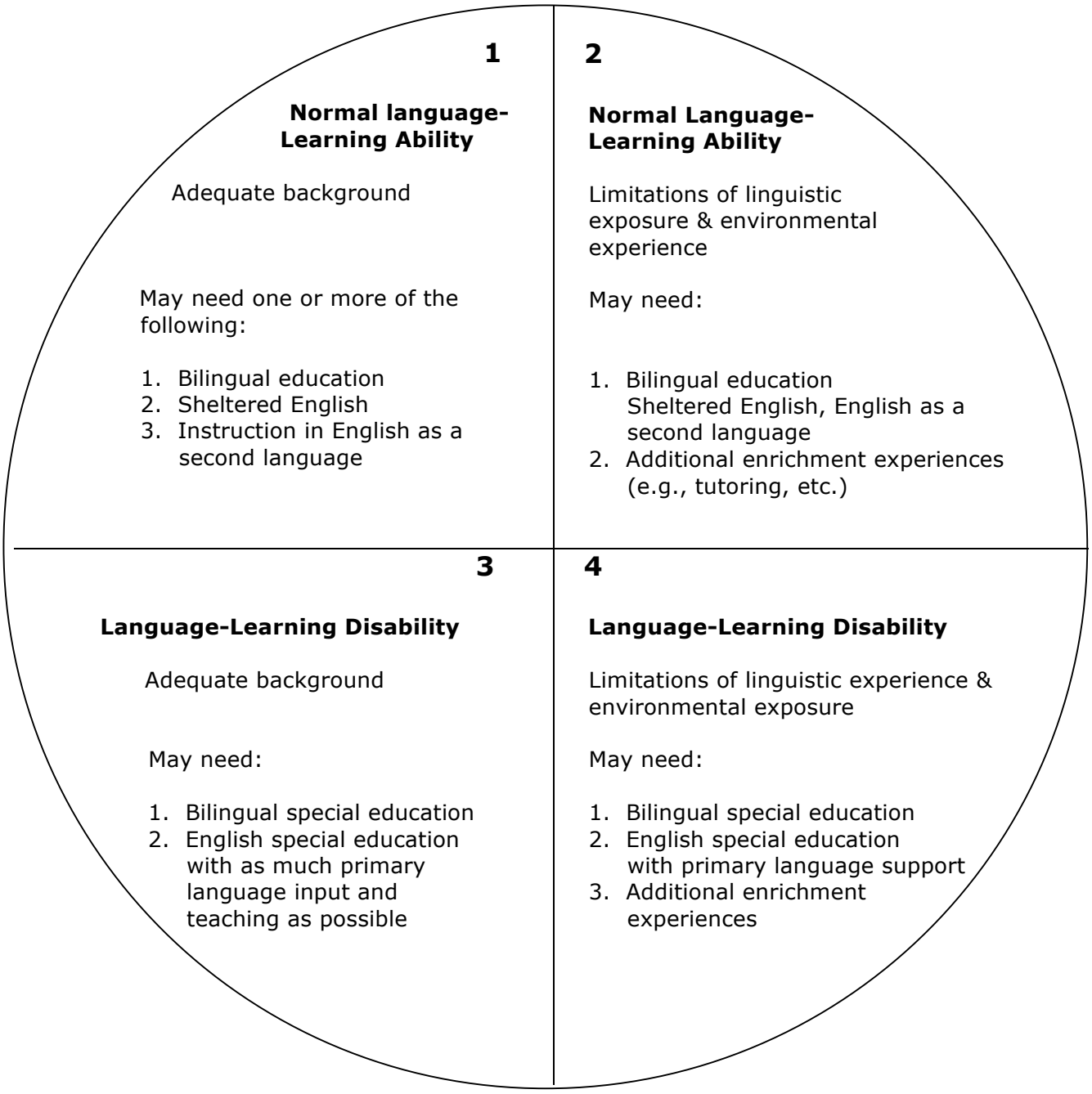
- performing well on standardized tests of academic skills (state school tests)
- performing well on standardized IQ, academic, and language tests, that would be administered by psychologists, speech pathologists, resource specialists
- performing adequately in context-reduced cognitively demanding classroom activities such as writing, reading, spelling, test-taking

Adapted from the following source.

Assessment of Bilingual Learners

DIAGNOSTIC "PIE"

It is important to share this with classroom teachers, who may not be aware that speech-language pathologists serve only students in Quadrants 3 and 4.



From *Multicultural Students With Special Language Needs (2nd ed),* by Celeste Roseberry-McKibbin, 2002, Academic Communication Associates, Inc. Reprinted with permission.

Comparison of Children with Limited English Proficiency

Characteristics	Child with Limited English Proficiency	Child with Limited English Proficiency and a Disability
Communication Skills	Normal language learning potential. Communicative use of English is reduced and easily noted by native English speakers. English phonological errors common to culture. No fluency or voice impairment. Can be communicatively proficient to function in society.	May exhibit speech and language disorders in the areas of articulation (atypical phonology or prosody), voice, fluency, or receptive and expressive language; may not always achieve communicative competence in either L1 or L2. May exhibit communication behaviors that call attention to himself/herself in L1.
Language Skills	Skills are appropriate for age level prior to exposure to L2. The nonverbal communication skills are culturally appropriate for age level (e.g., eye contact, response to speaker, clarification of response, turn taking). Vocabulary deficit and word-finding difficulties in L2 only. Student may go through a silent period. Code switching common.	May have deficits in vocabulary and word finding, following directions, sentence formulation, and pragmatics in either L1 or L2. Atypical syntactic and morphological errors. Persistent errors in L2. Low mean length of utterance in both languages. Difficulties in L1 and L2 cannot be attributed to length of time in English-speaking schools. Stronger performance on tests assessing single word vocabulary than on tests assessing under-standing of sentences or paragraphs.
Academic Functioning	Normal language learning potential. Apparent problems due to culturally determined learning style, different perceptual strategies, or lack of schooling in home country.	May observe limited progress in second language acquisition, difficulty retaining academic information, difficulty in schoolwork of home country, or difficulty in acquiring first language.
Progress	Progress in home language is contingent upon adequacy and continuation of first language instruction. Academic progress in English should be steady, but will depend on the quality and quantity of English instruction.	May show less than expected progress in English acquisition and development of academic skills. May show a marked or extreme discrepancy between different areas (e.g., oral skills and writing skills) that cannot be attributed to lack of sufficient time or appropriate interventions.
Social Abilities	No social problems in L1. May have some social problems due to lack of familiarity with American customs, language, expected behavior, etc. Student may experience social isolation and may be likely to be a follower rather	May exhibit persistent social and behavioral problems that are in L1 and his/her native culture and not attributable to adjustment and acculturation.

Classroom Strategies for English Language Learners

- Integrate language learning with content learning across the mainstream curriculum and themes. Content provides a motivation for learning language because it is interesting and of value to the learner. The English language learner can be fully engaged in learning activities. Content gives a cognitive basis for language learning because it provides real meaning and promotes the development of higher-order thinking skills (Cary, 1997; Gibbons, 1991; Roseberry-McKibbin, 2002; Richard-Amato, 1988; Richard-Amato & Snow, 1992).

- Allow the new student to remain silent, especially at the beginning. Listening and watching how other students behave and respond is an important part of learning another language (Gibbons, 1991).

- Establish a buddy system to help the child understand classroom routines and directions. If possible, choose children who speak the same language and children who will provide good English models. In the beginning, select classmates who are talkative and friendly rather than selecting classmates on the basis of their competence in English (Cary, 1997; Gibbons, 1991).

- Teach some basic survival language; e.g., how to ask to go to the bathroom and how to say that they feel sick (Gibbons, 1991).

- Modify your speech without distorting it or losing the rhythm and natural flow of the language to make it easier to understand (Cary, 1997; Richard-Amato & Snow, 1992; Roseberry-McKibbin, 2002).

    1. Talk slightly slower if you are a rapid speaker
    2. Use shorter sentences and simplify word order. Use fewer long words and complex sentences
    3. Use specific names instead of pronouns
    4. Enunciate words clearly and use fewer fused forms, e.g., "Jueet?"/"Did you eat?"
    5. Emphasize key words and phrases through gesture, volume, intonation, and facial expression.

- Check frequently for comprehension in a nonintrusive way, e.g., have the student use hand signals (thumbs up/thumbs down) or explain the directions or new learning to a classmate (Cary, 1997; Roseberry-McKibbin, 2002)

- Provide more wait and think time. Students need extra time to process information and formulate a response. Avoid immediately calling on another student to respond. If the child does not respond after a period of time, restate or rephrase the question and/or answer it yourself (Cary, 1997; Richard-Amato & Snow, 1992)

- Provide students with many opportunities for meaningful interactions with peers. During cooperative learning, students work with a partner or a small group rather than individually to acquire information. These experiences provide students with an opportunity to hear a wide range of language models and to practice comprehending and producing English for real communication purposes while sharing materials and

ideas, problem-solving, and completing a task (Cary, 1997; Herrell, 2000; Gibbons, 1991; Richard-Amato & Snow, 1992).

- Build on students prior knowledge, interests, and culture. Move from the known to the unknown. A KWL chart is a valuable tool to organize information at the start of a theme or unit to promote active involvement and to increase retention:
  K- "What do I know?"- activates prior knowledge and helps clarify misconceptions
  W- "What do I want to learn?"- guides the activity
  L- "What have I learned?"-serves as a monitor for learning.
  For a student learning English, information can be drawn instead of written (Cary, 1997; Gusman, 1996; Richard-Amato & Snow, 1992; Roseberry-McKibbin, 2002; Roseberry-McKibbin, 2001; Short, 1991; Schnifini, 1994).

- Assign a peer tutor, a student who has already achieved certain skills to help a classmate to acquire skills. A peer tutor who has mastered a higher level of proficiency in academic skills and English supports learning by explaining the assignment in the student's first language or models what is expected. The peer also serves as a linguistic model, facilitates communication, offers comprehensible input, and gives encouragement and feedback (Cary, 1997; Herrell, 2000; Richard-Amato, 1988; Richard-Amato & Snow, 1992; Short, 1991).

- Teach students the names of common objects in the classroom. Label the objects bilingually (Roseberry-McKibbin, 2002).

- Use visuals, actions, and gestural cues to clarify key concepts and increase comprehension. Visuals can include the following: real objects, photographs, pictures, transparencies, diagrams, graphs, charts, timelines, maps, videos, and filmstrips (Gibbons, 1991; Herrell, 2000; Roseberry-McKibbon, 2002; Richard-Amato & Snow, 1992; Schifini, 1994)

- Do not overcorrect errors in the use of grammar or pronunciation, especially when students are in the early and intermediate stages of learning English. Focus on the communication of meaning. Recast the student's utterances to model the correct form. For examples, if the student says, "I good today.", say, "I am good today, too." (Richard-Amato & Snow, 1992; Roseberry-McKibbin, 2002).

- Allow students to use a bilingual dictionary when necessary. Make sure it provides a two-way translation, e.g., Spanish to English and English to Spanish. Students can also make their own dictionaries using drawing, pictures, and photos to facilitate the recall of new vocabulary. Scrapbooks can be prepared on specific themes the class is studying (Gibbons, 1991; Richard-Amato & Snow, 1992; Roseberry-McKibbin, 2002).

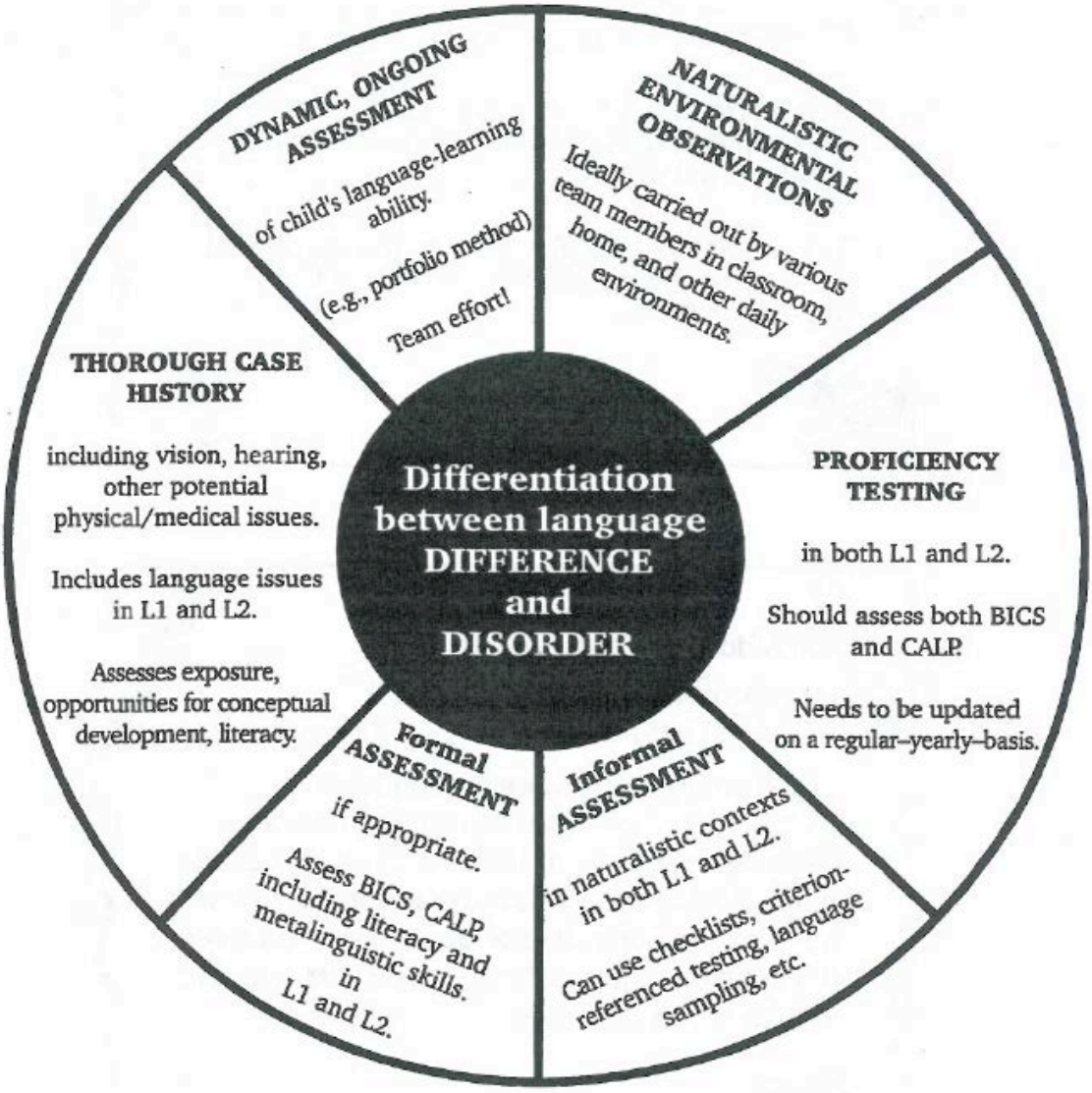
- Teach the use of graphic organizers, such as webbing, concept mapping, and Venn diagrams, for the purpose of learning content and organizing information (Cary, 1997; Gibbons, 1991; Roseberry-McKibbon, 2002; Schifini, 1994).

- Incorporate jazz chants, music and poetry into the curriculum. Meaningful word/sound play provides students with tools of communication, especially at the beginning of language acquisition. These activities are often predictable and repetitive and help develop the rhythm and stress of spoken English. They also reduce anxiety by lowering the risk of acquiring a new language (Gibbons, 1991; Richard-Amato, 1988).

Team Approach to Comprehensive Assessment

A comprehensive assessment, as illustrated below, does take some time but will decrease the likelihood of normally developing ELL students from being mislabeled and placed into speech-language services.

Assessment Wheel for Multicultural Students



See. Adapted from "Multicultural students with special needs," by C. Roseberry-McKibbin, 2002, Academic Communication Associates, Inc., Copyright 2002 by Academic Communication Associates, Inc. Reprinted with permission.

Assessment of Bilingual Learners: Language Difference or Disorder?

Topic One: Normal Processes of Second Language Acquisition

- A child who simultaneously develops two languages reaches some language development milestones in a way similar to that of monolingual children. For example, these children speak their first words and word combinations at the same age that monolingual children do.
- A child learning a second language manifests normal characteristics and processes as the second language is being acquired. Some of these are a silent period, code switching, transfer, and language loss.
- In the early stages of learning a second language (L2), most students focus on comprehension and do very little speaking. The younger the student, the longer the silent period usually lasts. Students introduced to L2 during the preschool years may speak very little in L1 or in L2 for an extended time period.
- Code switching is the phenomenon of alternating between 2 languages within a single phrase, sentence, or discourse. Bilingual children commonly use this strategy. Generally, code switching is a normal communication behavior and is used by multilingual adults and children around the world.
- When students are learning an L2, they make errors that reflect the influence of L1. For example: In Spanish a child would say "la casa verde" (the house green). If a Spanish-speaking child pointed to a picture and said, "Look – I see the house green" (instead of "I see the green house"), this would be transfer from Spanish not a sign of a clinically significant problem with syntax.
- Transfer can occur in all areas: syntax, morphology, phonology, semantics, and pragmatics. Errors of transfer from L1 are NOT signs of a communication disorder. These errors indicate a communication ***difference*** not a disorder.
- Many ELL students' L1 is not maintained in school through bilingual education. Unfortunately, they experience language loss in L1. This, in combination with other variables, can lead to achievement of low test scores in both L1 and L2.

Topic Two: Simultaneous and Sequential Bilingual Acquisition

- Simultaneous acquisition occurs when a child is exposed to 2 languages from infancy in natural situations. Interference between L1 and L2 is minimal.
- Early infancy is the ideal time for a child to be exposed to 2+ languages.
- Sequential acquisition occurs when the child is exposed to L1 during infancy and learns L2 at a later time. Sequential learners may show greater diversity in rates and stages of acquisition.
- If L2 is introduced sequentially before a strong L1 foundation has been established (e.g., 6-8 years of age), L1 development may be arrested or even regress while L2 is being learned. These students, for a while, achieve low test scores in both L1 and L2 – this can cause them to appear language-learning disabled when they are not. Preschool children who learn English in a sequential manner are especially vulnerable to this situation. For example, if a Russian-speaking child is introduced to English in preschool at age 3, he may stop speaking very much in Russian for a time while he is trying to learn English.
- Coltrane states: "For children younger than 5, many aspects of their first language have not fully developed. So while older learners have the foundation of a fully developed first language when they begin acquiring a new language, younger English language learners are working toward two milestones at the same time: the full development of their native language and the acquisition of English.

Topic Three: Types of Language Proficiency

- Additive bilingualism – the ideal situation, where the student's L1 is nurtured and developed along with L2. Research shows that additive bilingualism has great cognitive and linguistic benefits.
- Subtractive bilingualism – much more common in U.S. schools. In subtractive bilingualism, the student's L1 is not nurtured or developed. It is replaced by L2; and language loss in L1 occurs. In many cases, this leads to academic failure because the student is not strong in either language.
- The Separate Underlying Proficiency (SUP) model holds that L1 and L2 proficiencies are totally separate, and building skills in one language will not help the other language. Believers of SUP try to eradicate students' L1 through placing these students in "sink or swim" all-English classrooms and telling parents to "speak only English at home."
- The Common Underlying Proficiency (CUP) model holds that "the literacy-related aspects of a bilingual's proficiency in L1 and L2 are seen as common or interdependent across languages… experience with either language can promote development of the proficiency underlying both languages, given adequate motivation and exposure to both either in the school or in the wider environment."
- Practical implications of CUP include:
    - Build up the student's L1 skills
    - The stronger the student's L1 foundation, the more easily she will learn concepts in L2.
    - Students who experience additive bilingualism in this situation are much more likely to experience academic success.
- Often, older learners with a solid L1 foundation perform quite well academically because their solid L1 foundation supports the learning of English and academic content. Unfortunately, many of our ELL students do not develop a strong base in either language. These students do not receive L1 support, and they try to learn L2 with a foundation that is not fully developed. These students experience negative cognitive effects and frequent academic failure. They appear to be "language-learning disabled," when in reality, they are merely not strong in either L1 or L2.
- Basic Interpersonal Communication Skills (BICS) take approximately 2-3 years to develop to a native-like level under ideal conditions. Ideal conditions include continued support in L1 as well as comprehensible exposure to L2.
- BICS involves communication that is cognitively undemanding and content-embedded: there is contextual support for the interaction.
- Cognitive-Academic Language Proficiency (CALP) takes from 5-7 years to develop to a native-like level under ideal conditions. Ideal conditions include support for L1 as well as L2 instruction. Under less than ideal conditions, CALP can take up to 10 years to develop to a native-like level.
- CALP involves proficiency in context-reduced, cognitively demanding activities such as: understanding lectures on academic content, telling/writing imaginary stories, using language to predict, reason, analyze, synthesize and evaluate, reading and writing (literacy).
- When we extrapolate for BICS to CALP we create deficits in students that may cause them to be erroneously identified as LLD. Students who have good BICS after 2-3 years of exposure to English still need more time to develop CALP.
- Many English language proficiency tests only assess BICS. A problem with this practice is that when a BICS-oriented proficiency test labels an ELL student as "Fully English Proficient," professionals assume the student is ready to handle CALP-oriented tests in English. These can include statewide school achievement tests, speech-language and psychological tests, etc. For example, because a student can converse about simple, context-embedded topics, we assume that he can

comprehend and respond to context-reduced tasks that are cognitively demanding in a testing situation.

- When students show a BICS-CALP gap we often assume that they have a LLD and erroneously place them into special education. In reality, many of these students need more time to become proficient in academic (content-reduced, cognitively demanding) English.
- When we account for second language acquisition phenomena we make fewer misdiagnoses and avoid mislabeling normal ELL students as having language-learning disabilities. Also, we honor our students' linguistic and cultural identities as they engage in the challenging and rewarding process of becoming successful, and hopefully proficient, bilingual contributors to our society.
- An ELL student has a true language-learning disability (LLD) if he experiences difficulties learning BOTH languages. A LLD affects the student's ability to learn any language. The student with age-appropriate L1 skills and low scores in English is NOT LLD and is not a candidate for special education.
- It is important to take language loss into account when trying to decide if a student has a LLD.
- IDEA states that testing and evaluation materials used with ELL students must be selected and used in a nondiscriminatory manner. These materials must be administered in the native language, or the language in which the student is most proficient. It is best practice to assess students in both L1 and English in most situations; determining the language of assessment is dependent in some part on gathering information from a case history.

Topic Five: Use of Formal, Standardized Assessment Measures

- IDEA permits the use of qualitative, subjective measures. However, standardized formal tests are commonly used with ELL students. Many speech pathologists operate from the belief that we must always obtain quantitative data such as percentile ranks and standard deviations.
- There are very few standardized tests in most languages. Most standardized tests are developed from a Western, literate, middle class framework. These tests assume that students will cooperate to the best of their ability and be comfortable with an unfamiliar adult and willing to talk with him or her readily. It also assumes that the student will be proficient in verbal display of knowledge. It assumes the student can understand and successfully perform artificial, potentially unfamiliar, tasks such as fill in the blank items or unfamiliar items in a culture (types of clothing, foods, money, weather, etc.)
- Many standardized tests do not include ELL students in their norming samples. DO NOT translate an English standardized test into the student's L1 and then score the test according to norms.
- Although less than ideal, it is possible to use standardized tests with ELL students. Experts recommend some ways to use and modify these tests. These include: give instructions in L1 and English, rephrase confusing instructions, give extra examples and demonstrations, give the student extra time to respond, repeat items when necessary, if the student gives a "wrong" answer, ask her to explain it and record her explanation and score it as correct if it would be correct in her culture, omit biased items the student will probably miss, test beyond the ceiling, complete the assessment in several sessions, count as correct answers in either language (dual scoring system).
- If we should not use standardized tests with most ELL students – what should we do instead to differentiate a language difference from LLD? Use interpreters to administer informal measures to ELL students and/or observe in multiple settings.

Topic Six: Practical Strategies for Informal, Non-standardized Assessment

- Pre-evaluation Process:
  - Gather the case history. *Be sure to include language history.*
  - Use questionnaires and interviews with individuals who are familiar with the student (e.g., teachers, parents, interpreters).
  - Ascertain the student's language proficiency in L1 and English.
- Remember IDEA stipulations. According to IDEA, we must use a team assessment approach that incorporates multi-measure decisions. The provisions of IDEA state that assessment tools must display validity, equity, and nondiscrimination. IDEA does not require that standardized measures are used. Traditionally many speech-language pathologists have used standardized tests because they believe that a quantitative score is mandated by federal law; however the law does not exclude subjective or qualitative measures. It leaves the choice of measurement tools and criteria to the educator.
- An informal language sample in both L1 and L2 is an excellent way to evaluate a student's ability to communicate.
- Portfolios help teams judge a student's ability to learn over time when provided with instruction.
- Use the Description of the Bilingual Classroom Communication Profile.
- Use narrative assessment. The child can create a story, or the clinician can tell a story and ask the child to tell it back. It is important to take into account that different cultures have different rules for telling stories.
  - Does she organize it in such a way that the listener understands the general story sequence?
  - Does she give comments or explanations that are relevant or irrelevant to the story?
  - If the student is re-telling a story originally told by the speech-language pathologist, does she remember both major and specific details?
- In L1 and in English, assess the student's ability to follow directions of increasing length and complexity. Make sure the student understands the **vocabulary** used in directions.
- Evaluate the student's communication skills in a variety of settings. Use multiple observations in natural settings. Observe the student's ability to communicate successfully at home, in the classroom, on the playground, in the cafeteria and other settings.
- Dynamic assessment evaluates a student's ability to learn when provided with instruction. Don't ask what the student already knows; rather, ask HOW the student learns. This circumvents the problem of a student who has limited prior knowledge. Use the test-teach-retest format. Look for child responsiveness, transfer to new situations and examiner effort.
- Questions to ask to compare the student to similar (Culturally/Linguistically Diverse) CLD peers:
  - Was this student slower to learn new information?
  - Did she have more difficulty learning it?
  - Did this particular student require more structure and individualized attention than similar peers?
  - Did this student require instructional strategies that differed from those which had been used effectively with similar peers?
- Research has suggested that students with true LLD have difficulty retaining the sequential order of information. Studies suggest that LLD students have specific difficulties on tasks that require verbatim, immediate ordered recall.
- An informal technique:

    - Get simple picture cards and make sure the student can label the objects in L1 and/or L2
    - Ask the student to point to several pictures in a row from memory
    - Do this task first with cards, then without cards, to see if the student has more difficulty when there are no visual cues.
- Performance on non-word repetition and working memory measures has been found to be highly correlated with language impairment and second-language vocabulary acquisition in adults and children. When children perform poorly on processing-dependent measures, there is a high likelihood that they will have some type of language-learning difficulty. Digit span assessment needs more data – but may be an effective strategy when differentiating a language difference from a LLD.

Topic Seven: Utilizing the Services of Interpreters in Assessment of CLD Students

- Make sure interpreters are well trained and understand the purpose of the evaluation. Ensure that interpreters can build rapport with others from their culture.
- Prepare the interpreter for the assessment by:
    - Providing information about the student who is being assessed
    - Allowing the interpreter time to get organized and ask questions BEFORE the student arrives
    - Showing (actual demonstration) the interpreter how to use each measure.
    - Debrief with the interpreter after the session (e.g., "In your 5 years working with Provo School District children, how does Miguel seem to do in comparison with other Spanish speaking students?)

Adapted from the following source:
From *Multicultural students with special needs*, by C. Roseberry-McKibbin, 2002, Academic Communication Associates, Inc., Copyright 2002 by Academic Communication Associates, Inc. Used with permission.

How Does the Team Determine if a Student is Eligible for Special Education Services?

A student should be determined to have a speech and language disorder only if the student has a communication problem in both English and the primary language. It is not a disability if problems are observed only in the English language. Roseberry-McKibbin (2002) states that "A language disorder is a disability that affects the child's ability to learn in any language. Exposure to two languages is not the cause of the disability" (p. 221). According to Mattes & Omark (1991), "A language disorder is present when speaking behavior is defective to such an extent that it interferes with one's ability to convey messages clearly and effectively during interactions with community members who speak the same language and dialect" (p. 7).

The team members must determine and provide data to support that the student's problems are not the lack of academic support, limited English proficiency, cultural differences, or other student characteristics (Artiles & Ortiz, 2002). Roninson (2003) states that the signs of typical language differences include the following:

1. Foreign accent
2. Code switching/mixing, i.e., alternating between two languages
3. Interference, i.e., borrowing from the first language
4. Atypical prosody
5. Fossilization, i.e., persistent errors in the second language
6. Semantically and grammatically atypical utterances

The following questions may help the team rule out factors other than the presence of a disability as the source of difficulties (Artiles & Ortiz, 2002):

- In addition to the general education teacher, have others (i.e., the ESL teacher, remedial program personnel, and parents) noted similar difficulties?
- Does the problem exist across contexts (i.e., in general education, ESL classes at school, and at home)?
- Are the problems evident in the student's first language?
- Is the student's progress in acquiring English significantly different from that of peers who started at about the same level of English language proficiency and have had comparable instruction?
- Is there evidence that difficulties (i.e., lack of eye contact) can be explained by cross-cultural differences?
- Are there other variables (i.e., inconsistent school attendance) that could explain the difficulties?
- Is there evidence of extreme test anxiety (as can occur when the child being tested has been in the country for only a short time)?
- Can problematic behaviors be explained by procedural mistakes in the assessment process?
- Can problematic behaviors be explained by bias in operation before, during, or after the assessment?
- Does data show that the student did not respond well to general education interventions?
- Are the assessment results consistent with the concerns of the student's teachers and parents?

How Do I Develop an Individualized Education Program (IEP)? Are the Goals for an English Language Learner Different from the Goals for a Monolingual Student?

Following the completion of the speech-language assessment, the SLP will begin developing the IEP. Writing goals for English Language Learners would be the same as with a monolingual student. However, the language of instruction and response should be documented clearly on the IEP.

Skill-building services may be warranted if a difficulty is identified in a learner's native language as well as English. If the learner is not proficient in English, these services should be provided in the native language. If the SLP does not speak the learner's native language, then a trained assistant or aide should be supervised who can communicate fluently with the learner.

Articulation

Articulation therapy is only appropriate when the target sounds are present in the student's native language as well as English and the student is not producing them clearly in either language. Otherwise, the target is accent reduction and not deviant articulation. Even if the child has limited English, the SLP who speaks only English could work on this area in conjunction with the parents. For example, the SLP could work on traditional therapy techniques with the child, using many visuals and auditory feedback to compensate for language barriers. They could begin a picture inventory of words containing the sound divided by initial, medial, and final positions. Meanwhile, the parents could work on the native language at home and contribute to another picture inventory. The native language pictures could also be divided in the same manner and then glued to a different color background. This visual difference would provide the child with a cue to code switch when saying the words. The SLP may get a glimpse of native language articulation by having the child say the target words and listening for the identified phoneme. The use of poetry or songs in therapy could assist with learning prosody and inflection (Kayser, 1998).

Goals in integrated, co-teaching, and consultative service delivery would be the same for monolingual speakers. It is important to discuss with the teacher what are acceptable differences in articulation and what is a target of therapy. Also, remember to factor in the child's typical behavior patterns when planning a monitoring system. A child who does not normally volunteer information in class would be better monitored through oral reading activities in the classroom.

If the student needs accent instruction to learn the correct pronunciation of English words, instruction can be provided by the ESL or classroom teacher. The SLP may provide assistance to the teacher, such as picture materials, help with placement, cueing strategies, and ideas for practice. The American Speech-Language-Hearing Association suggests that the SLP consult with educators about utilizing the features of the nonstandard dialect to facilitate the learning of reading and writing in standard English (American Speech-Language-Hearing Association, 1983). However, that student should not be entitled for services unless a true articulation delay is present.

Voice

To receive speech services, the SLP must determine that what is deviant in English is deviant in the native language or culture. Speaking with the student's family and others of the child's culture would assist in determining if his vocal use is typical or atypical. If the SLP finds a true voice disorder, then the therapy would be the same as for a monolingual child. Consistent terminology should be used by teachers, assistants, and anyone who is helping reinforce good vocal use. The family should be included in therapy. The SLP can obtain translations of the target vocabulary for the parents' use at home. The student can explain his goals and the SLP can discuss strategies the parents can use at home.

Factor in the child's typical behavior when setting a goal and monitoring procedure for integrated, co-teaching, or consultative service delivery. Goals would be written in the same manner as for a monolingual child. It may be beneficial to give the student a task that must be done on a weekly basis in front of the classroom to monitor the use of good vocal strategies, such as sharing information. The teacher and the student could have a checklist containing those strategies for monitoring purposes. A similar checklist and list of strategies could be translated and sent home for the family to participate in progress monitoring.

Fluency

To receive speech services the dysfluency must be present in the student' native language as well as in English. Basic information should be translated for parents so that they understand the nature of fluency and what therapy entails. Goal setting and therapy would follow that same basic course as with monolingual students.

Goals for carryover of fluency would be similar to those written for monolingual students. Consistent terminology should be used by teachers and all those helping the students so that the student does not become confused by the feedback he receives. The child may need to have specific activities set up for monitoring purposes. For example, the goal may state that the student will go to the teacher at a specific point in the day to restate any assignments given while the teacher monitors fluency. The family may also participate in a daily fluency check, e.g., that student needs to tell the family what happened in school that day or ask for information, and the family could fill out a chart for monitoring purposes. If possible, the student can create a fluency journal logging when he/she stutters, describing the event, and how he/she feels what he/she did to compensate. The student may even use drawings if he/she does not feel comfortable writing.

Language

A true language delay would be apparent in the child's native language as well as in English. At times, children experience loss of the first language as they receive instruction in English but are not maintaining their second language (Kayser, 1998). The language used during therapy would depend on the child's level of functioning in both English and the native language. Utilizing both languages would be beneficial. If the SLP does not speak the child's native language, then the SLP could work with an assistant, aide, or the parents to coordinate targets and goals. Participation in a small group is a good way to increase levels of interaction and language use, e.g., peer-peer, small group, and peer-adult.

Goals for integrated, co-teaching, and consultative service in the language area would be the same for monolingual speakers. However, it is very important to clarify to the teacher the strategies the student needs to succeed in the classroom. Initially, the focus should be on content and not form.

Receptive Language

Even if a student no longer speaks his native language, the student retains some receptive knowledge of it. It would be beneficial to encourage the parents to continue to provide language experiences at home in the native language.

English Language Learners frequently have difficulty following directions. The SLP must determine whether it is due to lack of basic English vocabulary (e.g., Put the pencil on the desk), Lack of concept vocabulary (e.g., Put the pencil on the desk), or weak auditory memory skills. In addition, the SLP must determine whether the student exhibits the same difficulty in his native language or whether it is a matter of learning English and not a delay. Once the focus is narrowed, the target of the goal is determined. It is important in therapy to continually stress key vocabulary, have the students rephrase information in their own words, and integrate as many modalities as possible, for example, writing, reading, movement, and pictures (Goldstein, 2000).

SLPs may assist through creating and reviewing note-taking guides following the teacher's lesson plans. They may be tailored to the student's level of English acquisition by varying the demands on the student. For example, a student just acquiring English may need a sheet where definitions and main points are listed with blank spaces for the key vocabulary. A higher-level student may only need a skeleton outline of the main ideas so that he/she may take notes when the key words are heard. Using these methods, the students can listen to the presentation without worrying about taking notes. Students with less developed English skills will also have a grammatically correct set of notes to study from, increasing their understanding of the English language.

The use of picture dictionaries is also helpful for the student as well as the family. There are several commercially available, but the student may also develop a dictionary focusing on the current academic unit. In that case, the teacher and/or SLP would select crucial vocabulary for the unit (5-10 words initially), and the child would write the word, draw a picture to represent the word, write a definition of the word, and write a sentence using the word. This dictionary could also help the parents reinforce academic concepts at home in the native language.

Expressive Language

It is important to have general background knowledge of the child's native language prior to evaluating expressive skills in English. For example, Hmong is a noninflectional, basically monosyllabic language (Goldstein, 2000). Omitting word endings or using improper verb tenses would be expected as the child acquires English. If the goal area is determined appropriate and not due to the influence of the first language, then the goal would be the same as a monolingual speaker's goal. The SLP would stress the overall content instead of the structure of the message when beginning intervention with English Language Learners.

Opportunities for expressing thoughts and ideas need to be integrated into the school day. The teacher may use cooperative learning groups, open-ended classroom questions, or a

weekly sharing time as strategies to elicit oral language. Also, the entire class could be assigned a story-retelling task that would be tape recorded individually for analysis. Activities such as imaginary telephone calls, dramatic play, and show and tell could be used with younger children (Kayser, 1998). Progress monitoring should be divided into the content of what the student is saying as well as the form to give a full picture of the student's progress.

As the goal area moves into the classroom, students would benefit from integrating visual cues into the classroom. They may need graphic organizers when planning their assignments. For example, a student may use a Venn diagram to list similarities and differences between two objects, events, or concepts prior to writing a paper on the topic. They may use a semantic web to list attributes of an object. A story map may be filled out with a peer or teacher to review a narrative or to generate a new narrative.

In conclusion, there are many special considerations when addressing the communication skills of an English language learner. The SLP who serves an English Language Learner needs to be knowledgeable about referral sources and the indicators of a language disability. In addition, the SLP needs to understand how learning a second language impacts gathering information, developing an intervention plan, conducting an assessment, determining eligibility, and developing an Individualized Education Program. With this knowledge and other professionals, English Language Learners with special needs will receive quality, culturally appropriate services.

Language Differences Commonly Observed Among Spanish Speakers

Language Characteristics	Sample English Utterances
1. Adjective comes after noun	The house green.
2. ‘s is often omitted in plurals and possessives	Juan hat is red.
3. Past tense –ed is often omitted	We walk yesterday.
4. Double negatives are required	I don’t have no more.
5. Superiority is demonstrated by using *mas.*	This cake is more big.
6. The adverb often follows the verb.	He drives very fast his motorcycle.
7. Regular present tense third person –s	He eat.
8. Use of go instead of am going to	I go to dance.
9. Use of have instead of copular be form	I have ten years.
10. Nonobligatory do insertion in questions	You like apples?
11. No noun-verb inversion in questions, inflection only	Felipe is leaving?
12. Post noun modifier used in place of possessive “s	The pencil of my sister.
13. Possessive pronouns not used with body parts	I cut the finger.
14. Nonobligatory plural –s	Girl are singing.
15. Subject pronoun omitted when previously identified	Mother is sad. Is sick.
16. Articles often omitted.	Go to store.
17. Use of no before verb	She no eat candy.
18. No used for don’t in negative imperatives	No throw food.

Spanish vs. English Phonemic Inventory

Stops	Spanish	p, b, t, d, k, g
	English	p, b, t, d, k, g
Nasals	Spanish	m, n, ny
	English	m, n, ng
Fricatives	Spanish	f, s, x
	English	f, v, s, z, h, th (voiced/voiceless), sh, zh
Affricate	Spanish	ch
	English	ch, j
Liquids	Spanish	l
	English	l
Flap	Spanish	r
	English	
Trill	Spanish	r
	English	
Glides	Spanish	w, y
	English	w, y

Spanish/English Early, Middle, and Late Developing Sounds

Early	Spanish	p, d, n, t, j, w
	English	m, b, j, n, w, d, p, h
Middle	Spanish	k, g, x, m, f, ny
	English	t, ng, k, g, f, v, ch, j
Late	Spanish	ch, b, l, r (trill), r (flap), s
	English	sh, s, z, l, r, zh, th (voiced/voiceless)

Culturally and Linguistically Diverse Articulation

Phonological Features Often Observed in Spanish Speakers

(Goldstein, 2001; Roseberry-McKibbons 1995)

Features	Examples
t, d, n may be dentalized	
Devoicing of final consonants	Dose/doze
b/v sound substitutions	Berry/very
Deaspirated stops	
ch/sh sound substitutions	Chirley/Shirley
d/th voiced	Dis/this
No voiceless th phoneme	Tink/think
Schwa sound added before the initial consonant cluster	Eskate/skate
Omission of the h phoneme	It/hit
Trilled r	Comparable to the r sound in butter
Word endings can have multiple sounds: a, e, I, o, u, l, r, n, s, d	English words may have drop sound endings
y/j sound substitution	Yoke/joke
Frontal s--Spanish sound is produced more frontal than in English	
n sounds like y	Ban/bahnyo
Spanish has 5 vowels	
ee/I	Peeg/pig
e long vowel a	Pet/pat

Phonological Features Often Observed in Asian Speakers

Features	Examples
Many words have vowel endings. Few words end in consonants	Do/dog
Some languages are monosyllabic; speakers may truncate polysyllabic words or emphasize the wrong syllable	Efunt/elephant Diversity/diversity
May devoice voiced cognates	Beece/bees
r/l substitutions	Clown/crown
Shorten vowel length in words	Words sound choppy
No voiceless th	Tin/thin
Addition of "uh" sound in blends and in the end of words	Wooduh/wood buhlae

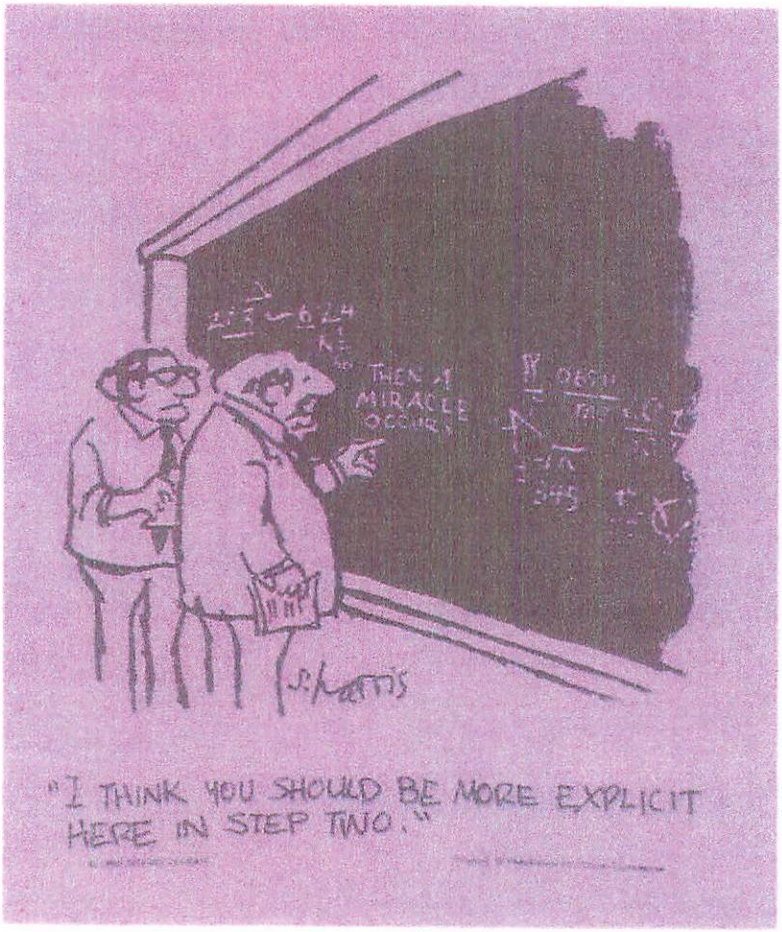
Highlights from:

Phonological Development and Disorders in Spanish-English Bilingual Children: Research to Practice

By Brian Goldstein, Ph.D. Temple University

June 2008

Evidence-Based Practice



The "Hope and Pray" method of therapy

Take-Home Messages

⇒ **(Attempt to) examine phonological skills in both languages**

⇒ **Complete in-depth analyses**

⇒ **Take dialect into account**

⇒ **Use the appropriate comparison database**

⇒ **Use a Bilingual and a Cross-Linguistic Approach for Intervention**

⇒ **Monitor Generalization**

Bilingual Review

Bilingual child: Child who is not monolingual

⇒ **Simultaneous bilingual—Exposed to both languages before age 3**

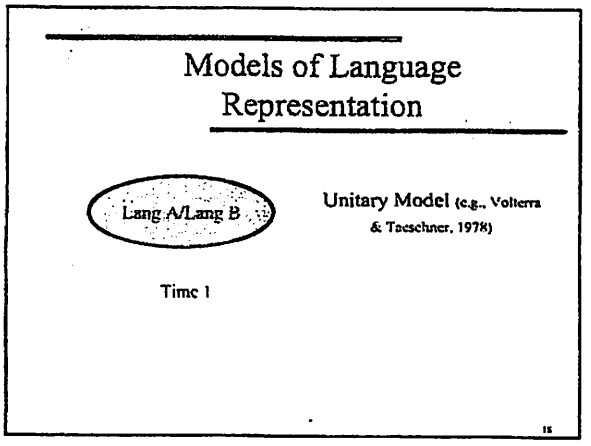
⇒ **Sequential bilingual—Acquire second language after some proficiency in first language**

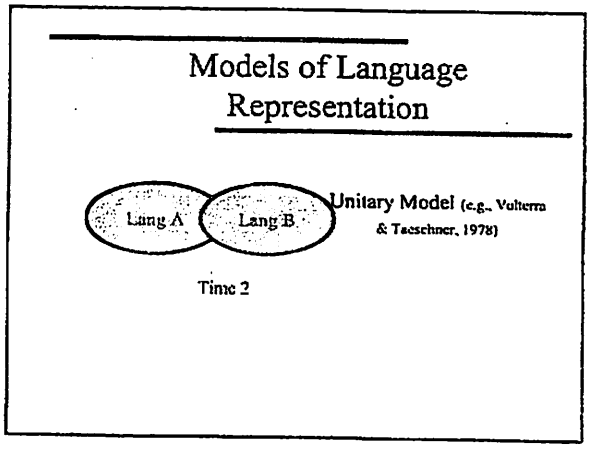
Not a lot of good research studies on bilingual children

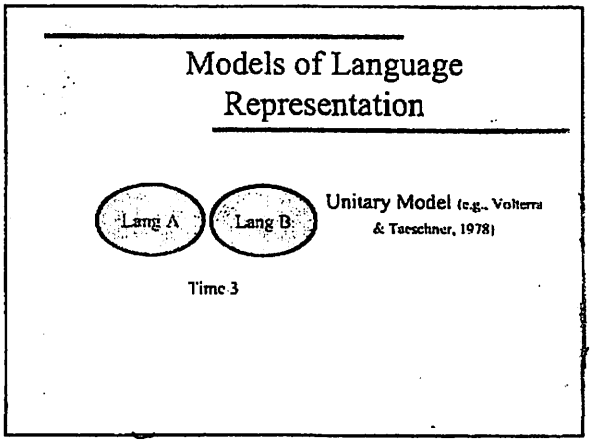
Good question: In what language is the child dominant?

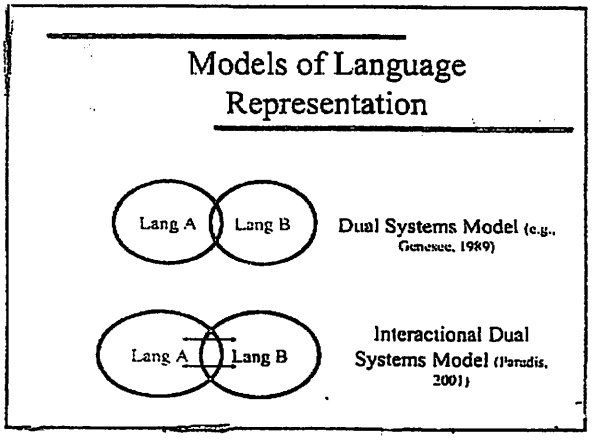
Better questions: What phonological skills does the child have in each language? How do those skills change over time? (Are they steadily increasing, plateauing, or regressing in skill within a language) (Time=a few weeks)

Models of Language Representation









Perform a Comprehensive Assessment

What is the Purpose of Assessment? (Bankson & Bernthal, 2004)

- make a differential diagnosis
  - eligibility for services
- determine if child might normalize without intervention
- identify factors related to presence of the disorder
- inform intervention
- monitor change over time

Case History (Yavaş & Goldstein, 1998)

- Does the child sound like other children of the same age?
- What dialect does the child speak?
- What consonants does the child produce (front-back; initial-final)?
- What vowels are produced (all, some)?
- How intelligible is the child?
- Do the child's parents, family members, teachers, friends… understand the child all, some, none of the time?

1) Choose the language of Assessment

- **Examine Phonological Skills in Language A**
- **Examine Phonological Skills in Language B**
- **Examine Combined Phonological Skills in Language A & Language B**

2) Select a formal Assessment Tool Designed for Non-English Speakers

3) Select an Informal Assessment Tool Designed for Non-English Speakers

- **Connected speech sample**
- **Sentence repetition**
- **Name, address, phone number**
- **Numbers, letters**
- **Nursery rhymes**

Perform an In-Depth Analysis

Assess each language; compare the two

- **Consonants in initial and final positions**
- **Clusters**
- **Vowels**
- **Syllable types (every language has a CV syllable)**
  - **English—most kids have 1-syllable words, but they are complex**
  - **Spanish—most kids have 2-syllable words, but they are simple**
- **Word length (1-5 syllables)**

Spanish vs. English Phonemic Inventory

Stops	Spanish	p b t d k g
	English	p b t d k g
Nasals	Spanish	m n ɲ
	English	m n ŋ
Fricatives	Spanish	f s x
	English	f v s z θ ð ʃ ʒ h
Affricate	Spanish	tʃ
	English	tʃ dʒ
Liquids	Spanish	l
	English	l ɹ
Flap	Spanish	ɾ
Trill	Spanish	r
Glides	Span./Eng.	w j

Spanish vs. English Phonemic Inventory

Stops	Spanish	*p b t d*
	English	*p b t d*
Nasals	Spanish	*m n*
	English	*m n*
Fricatives	Spanish	*f s*
	English	*f v s z θ ð*
Affricate	Spanish	*tʃ*
	English	*tʃ*
Liquids	Spanish	*l*
	English	*l*
Flap	Spanish	*ɾ*
Trill	Spanish	
Glides	Span./Eng.	*w j*

(sample)

English & Spanish Word-Initial Cluster Types

English	Spanish
/pj/, /pɹ/, /pl/	/pɾ/, /pl/
/tw/, /tj/, /tɹ/	/tɾ/
/bj/, /bɹ/, /bl/	/bɾ/, /bl/
/dw/, /dɹ/	/dɾ/
/kw/, /kj/, /kɹ/, /kl/	/kɾ/, /kl/
/gw/, /gj/, /gl/	/gɾ/, /gl/
/fj/, /fɹ/, /fl/	/fɾ/, /fl/
/θw/, /θɹ/	
/ʃɹ/	
/sw/, /sl/, /sm/, /sn/, /sp/, /st/, /sk/	
/spj/, /spɹ/, /spl/	
/stɹ/	
/skw/, /skj/, /skɹ/, /skl/	

Syllable Types (Hammond, 2001)

	English	Spanish*
V	[e] "a"	[a] "a"
CV	[li] "Lee"	[lo] "lo"
VC	[otSmil] "oatmeal"	[enStrar] to enter
VCC	[its] "its"	[absStrakSto] abstract
CVC	[bot] "boat"	[dos] "dos"
CVCC	[bots] "boats"	[persSpekStiSβa] "perspective"
CCV	[ple] "play"	[plaSto] "plato"
CCVC	[ɹen] "train"	[tren] "train"
CCVCC	[ɹenz] "trains"	n/a
CCCV	[stɹa] "straw"	n/a
CCCVC	[stɹaŋ] "strong"	n/a
CCCVCC	[stɹɪŋz] "strings"	n/a
CCCVCCC	[stɹɛŋkθ] "strength"	n/a
CCCVCCCC	[stɹɛŋkθs] "strengths"	n/a

Take Dialect into Account

English---dialects modified by vowels

Spanish---dialect modified by consonants

(Don't worry about treating final consonants in Spanish---deletion doesn't affect intelligibility)

English---reduce vowels to a schwa

Spanish---delete syllables (e.g. pescado becomes /pekao/; para aqui, para aca becomes /paki paka/

Dialect Features
(Guitart, 1996)

- Conservative dialects (preserve sounds in final position)
  - /dos/ → [dos]
- Radical dialects
  - deletion of final segments (/dos/ → [do])
  - fricatives are laryngealized (e.g., /dos/ → [do^{h}])
  - /n/ becomes nasalized or velarized (/xamon/ → [xamõ] or [xamoŋ])
  - flap and /l/ are neutralized /arbol/ → [arbor]; /karta/ → [kalta])
- NOT ERRORS SO NOT TREATED

Use Appropriate Comparison Database

Compared with monolingual children, bilingual children: (data from 3-year-old children tested only in English—by age 4 should be equal to monolingual peers)

- **Show an overall lower intelligibility rating**
- **Make more consonant and vowel errors**
- **Distort more sounds**
- **Produce more uncommon error patterns**
- **Exhibit more phonological processes**
- **Exhibit higher percentages-of-occurrence for many phonological processes**
- **Exhibit error patterns found in both languages (e.g. cluster reduction)**

Common Patterns

- cluster reduction
- final consonant deletion
- unstressed syllable deletion
- stopping
- liquid simplification
- flap/trill errors
- assimilation

- Developmental
  - cluster reduction in 3;6
- Non-development
  - cluster reduction in 5;6

Uncommon patterns

- initial consonant deletion
  - /sopa/ → [opa]
- backing
  - /plato/ → [plako]

44

Early, middle, and late developing sounds

English (Shriberg, 1993)

- Early 8: /m, b, j, n, w, d, p, h/
- Middle 8: /t, ŋ (ng), k, g, f, v, ʧ (ch), ʤ (j)/
- Late 8: /ʃ (sh), θ (th-vd), s, z, ð (th-vl), l, ɹ (r), ʒ (zh)/

Spanish (after Acevedo, 1993)

- Early 6: /p, d, n, t, j, w/
- Middle 6: /k, g, x, m, f, ɲ (ny)/
- Late 6: /ʧ (ch), b, l, r (trill), ɾ (flap), s/

67

Shared and Unshared Phonemes

Shared Phonemes (English and Spanish)	Unshared Phonemes
/m, n, b, p, t, k, g, f, ʧ (ch) s, ð (th-vd.), l/	English /h, v, ʤ (j), ŋ (ng), ʃ (sh), ʒ (zh), z, θ (th-vl.)
	Spanish /x, ɣ (g-spirant), r, ɾ (flap), β (b-spirant)/

65

Shared vs. Unshared Consonants

(Goldstein, Fabiano, & Iglesias, 2003)

	Accuracy-Eng.	Accuracy-Span
Shared		
typically developing	93.5%	93.7%
phon. disordered	83.3%	84.6%
Unshared		
English		
typically developing	81.7%	n.a.
phon. disordered	59.8%	n.a.
Spanish		
typically developing	n.a.	76.6%
phon. disordered	n.a.	48.6%

based on Stockman's Min. Competence Core (1996)

66

Use Appropriate Comparison Database

Bilingual Children with Phonological Disorders will Exhibit (Dodd, Holm, & Wei, 1997; Holm & Dodd, 1999; Goldstein, 2000; Holm, Dodd, Stow, & Pert, 1998; McLeod & McCauley, 2003)

- Low intelligibility to family and individuals outside the immediate family. in both languages
- Low consonant accuracy in BOTH languages.
- A greater number of phonological patterns than monolinguals.

Bilingual Children with Phonological Disorders will Exhibit (Dodd, Holm, & Wei, 1997; Holm & Dodd, 1999; Goldstein, 2000; Holm, Dodd, Stow, & Pert, 1998; McLeod & McCauley, 2003)

- Similar, although not identical, phonological skills to monolinguals with phonological disorders
- Similar phonological patterns in both languages:
  - cluster reduction, final consonant deletion, weak syllable deletion
  - liquid simplification stopping, backing, devoicing

Bilingual Children with Phonological Disorders will Exhibit

- Dissimilar phonological patterns in both languages:
  - more final consonant deletion in English than Romance languages
- Mainly early developing, but some later developing, phonemes in the two inventories.
- A large number of substitution errors in BOTH languages (with cross-linguistic effects and dialect features *taken into account* during scoring)
- Substitutions for both early developing and later developing phonemes in BOTH languages.

Use a Bilingual and Cross-linguistic Approach to Intervention

Use what you know about intervention and apply to bilinguals

Principles of Tx (Grunwell, 1997)

- Tx is based on a complete assessment
- There is "order in the disorder"
- Principle purpose of Tx is phonological reorganization facilitated by:
  - Using contrastive word pairs to show the relation between production & adult target
  - Focused practice (80-100 responses in 20-30 min. session) to stabilize new contrasts

General Considerations to Remediate using Processes (Smit, 2004)

- Focus on patterns that
  - contribute greatly to unintelligibility (e.g., ICD before palatal fronting)
  - are eliminated early in normal acquisition
  - typically persist in children with disorders
- establish sounds in a variety of sound classes and word structures
- train more than one sound for each process

Goal Selection Factors (Williams, L., 2003. Perspectives in Lang Learning & Educ, 10, 12-16.

Selection Factor	Traditional Approach	Nontraditional Approach
Stimulability	target stimulable sounds (Hodson & Paden, 1991)	target non-stimulable sounds (Miccio, 1999)
Developmental Norms	target early developing sounds (Shriberg & Kwiatkowski, 1982)	target later developing sounds (Gierut et al., 1996)

1) Choose Phonological Targets

Potential order of Phonological Targets

English	
Syllable final consonants	I
Syllable initial consonants	II
Syllable inclusion	III
Clusters	IV
Vowels	V
Liquids	VI

103

(Spanish)

Syllable inclusion	3- then 4-syllables
Syllable initial consonants	Stops > Nasals > Frics. > Velars
Clusters	/l/ > /r/ > /w/ > /esC/
Syllable final consonants	/s/ > /n/
Liquid/flap/trill	/l/ > /r/ > /r/
Vowels	Any in error

(Kolmert-Rice, Goldstein, & Buteau, 1998)

105

English		Spanish
Syllable final consonants	I	Syllable inclusion
Syllable initial consonants	II	Syllable initial consonants
Syllable inclusion	III	Clusters
Clusters	IV	Syllable final consonants
Vowels	V	Liquids/flap/trill
Liquids	VI	Vowels

106

2) Choose the Approach

1) Vertical strategy

One goal is taught at a time until criterion is reached

2) Horizontal strategy

More than one goal is addressed in each session

3) Cyclical Strategy

A number of goals are addressed in a cyclical fashion, but only one goal is incorporated at a time within a session

3) Choose the Language of Intervention

⇒ **Use both a Bilingual approach and a Cross-linguistic approach**

⇒ **The target drives the intervention language: the language does not drive the target**

Bilingual Approach

Focus on elements common to both languages

- Sounds (e.g. /s/)
- Sound combinations (e.g., C/V)
- Syllable types (e.g., CV syllable)
- Syllable shapes (e.g. CCVSCVC)

Treat error patterns (or sounds in error) exhibited with similar rates in both languages

- Unstressed syllable deletion
- Cluster reduction
- Stopping
- /s/

Cross-linguistic approach

Focus on skills unique (i.e. non-overlapping) to each language:

- Consonants
- Vowels
- Syllable types
- Syllable shapes
- Word length
- Phonological patterns

Treat error patterns (or sounds in error) exhibited in only one language

- Flap/trill
- Aspirated affricates
- Clicks
- English "r"
- Final consonant devoicing

Monitor Generalization

Monitor generalization within and across the two languages

Probe regularly; assess periodically

1=1+1 (One bilingual approach plus one cross-linguistic approach equals one intact phonological system)

Monitor Change (Grunwell, 1992)

- *stabilization*
  - variable production becomes stable
- *destabilization*
  - stable pattern becomes variable
- *innovation*
  - introduction of a new pattern
- *generalization*
  - monitor within *and* across languages

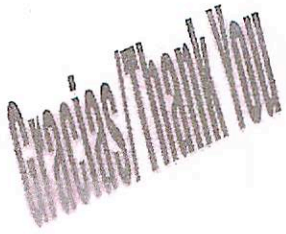
Rationale

- Phonotactics (i.e., phonological structure) (e.g., vowels, consonants, syllable types, etc. are not the same for each language) (Hammond, 2001).
  - For example, there are no final consonants in Hmong.
  - For example, English contains a retroflex "r" but Spanish contains flap and trill.

Rationale

- Knowledge is distributed across the two languages.
  - For example, child speakers of Romance languages (Italian) are more accurate on multisyllabic words in comparison to speakers of Germanic languages (English) (Vihman, 1995).
  - For example, bilingual children may exhibit certain phonological skills in one language but not in the other (e.g., Goldstein & Washington, 2001; Goldstein, Fabiano, & Washington, 2005)

Arabic
Shoukran
Cambodian
Orkun
Chinese (Cantonese)
Doh je
Chinese (Mandarin)
Xie-xie
Czech
Dekuju
Danish
Tak



Korean
Kamsu hamnida
Laotian
Kob chic
Latvian
Paldies
Lithuanian
Attyu
Malay
Terima kasih
Mongolian
Vayarla

Continuum of Service Delivery Options Decision Making Guide

Once a student is entitled for special education speech/language services, there are a variety of service delivery options to assist the team in making decisions about the best way to provide service to each student. Research indicates that a variety of student delivery options support student progress.

1. Decisions are made in regard to the least restrictive environment, with consideration given to the unique combination of instruction, providers, and environment needed to meet the specific needs of each individual.

2. As the Continuum of Service Delivery Options are considered for each goal, 4 questions may be asked:

    - **Who** will be the best provider (or combination of providers) to teach the skill or provide the instruction? (Provider)

    - **What** needs to be taught with consideration given to the student's current level of performance and stage of learning? (Instruction)

    - **How** should the instruction be provided? (Instruction)

    - **Where** should the instruction take place? (Environment)

3. Examination of each of the service delivery options (1-4), shows that the level of LRE is most restrictive under Option 1, and becomes progressively less restrictive under Options 2, 3, and 4. The selection of each goal's service delivery option is based on the current level of functioning. As mastery at one level is achieved, the student progresses through the flow chart. The goal is to develop the transfer and generalization of skills that will help the student become more independent and self sufficient in the least restrictive environment.

Continuum of Service Delivery Options (CSDO)

Ongoing consultation and collaboration occurs between the SLP, teacher, parents and other providers at each SDO.

Intervention Plan **Provider:** - SLP - Special Ed Teacher - Regular Ed Teacher - Parent - LEA staff - SLT and/or SL Assistant (supervised by SLP) **Instruction:**	SDO 1 **Skill Building** direct-child **Provider:** - SLP (primary provider) - SLT and/or SL Assistant (supervised by SLP)	SDO 2 **Integrated** direct-child **Provider:** - SLP (primary provider) - Special Ed Teacher - Regular Ed Teacher - Parent - Paraprofessional	SDO 3 **Co-teaching** direct-child **Provider:** - SLP - Special Ed Teacher, OT, PT - Parent - Regular Ed Teacher	SDO 4 **Consultative** Consultation/direct-family **Provider:** - SLP (assistive role) - Special Ed Teacher - Regular Ed Teacher - Parent
- Written intervention plan completed - Specific intervention selected, monitored, and evaluated to determine student needs - Used as pre-referral, prevention, modeling for staff/provider training, strategy training, modification of the educational environment, or short term delivery of skill building, integrated, or consultative model	**Instruction:** - Implement intervention - Teach skill - Provide drill - Prompt - Cue - Elicit - Model - Reinforce - Modify - Accommodate - Teach self-regulation Individual or Group Instruction provided	**Instruction:** - Enhance carryover/ generalization of communication skill from skill building level - Functional integration of established communication skill within the classroom, home, or community - Inform teachers of expectations to use communication skill - Implement modification or accommodation as needed to maintain skill in classroom, home, or community	**Instruction:** - Preplanned lessons by SLP/ Special Ed/ Regular Ed/HI Teacher - Integration of target communication skills for group lesson - Alternate turns being lead instructor - Rotate between small or large groups	**Instruction:** - Regularly scheduled contact/ monitoring - Goals/objectives written by SLP and Family - Brief demonstration teaching and materials provided by SLP and Family - Monitoring of progress for goals/objectives by the service provider or SLP - Continuous evaluation of successful or unsuccessful intervention
Environment: - Speech room - Classroom - Other educational settings (lunchroom, playground, art, music, or gym) - Home - Community	**Environment:** - Speech room - Classroom - Other educational settings (lunchroom, playground, art, music, or gym) - Home - Community	**Environment:** - Speech room - Classroom - Other educational settings (lunchroom, playground, art, music, or gym) - Home - Community	**Environment:** - Classroom/LRE - Home/Natural Environment - Community/Daycare	**Environment:** - Speech room - Classroom - Other educational settings (lunchroom, playground, art, music, or gym) - Home - Community

Definitions:

Skill building-*Skill building is used for students learning a new skill, needing more intensive instruction, requiring drill and practice, and shaping through progressive approximation by a professionally trained SLP*

Integrated-*A communication skill has been trained but needs to be integrated and generalized to functional settings and natural environment of the classroom, home, or community*

Co-teaching-*Skill building and generalization is taught to the student as a combined effort between the SLP and regular/ special education, and/or parent*

Consultative-*Skill building occurs but a different provider other than the SLP guides the meaningful change and development of target communication skills*

Dismissal Consideration Worksheet for Speech-Language Services

Student: _____ **Date:** _____

School: _____ SLP: _____

Rate of Progress	**Yes**	**No**	**Comments**
1. Does the student show a potential for change?	____	____	_____
2. Has the student made minimal or no measurable progress, or has progress shown a lengthy plateau during the past year?	____	____	_____
3. Has the student met all the speech-language goals?	____	____	_____
4. Having met his/her speech-language goals, can he/she make progress within his/her current educational setting without further services?	____	____	_____
5. Given the student's current medical or other conditions, is his/her speech-language performance within the expected, maximum compensatory skill level?	____	____	_____
6. Is there documented carry-over or generalization of speech-language skills in one or more environments?	____	____	_____
7. Have program modifications and/or a variety of approaches been attempted?	____	____	_____

Discrepancy From Peers/Standards	**Yes**	**No**	**Comments**
1. Does the student exhibit language differences as a result of a bilingual environment?	____	____	_____
2. Does the speech-language concern still exist?	____	____	_____
3. Does the speech-language concern continue to interfere with the student's educational performance including academic, vocational, or social functioning?	____	____	_____
4. Is the student less discrepant from peers and ready for reintegration into the general educational classroom?	____	____	_____
5. Are the student's communication skills functional and effective within the student's current educational setting?	____	____	_____

Instructional Need	Yes	No	Comments
1. Can the student's communication needs be met by the efforts of teachers and other professionals?	_____	_____	_____
2. Is the student unmotivated to participate in treatment?	_____	_____	_____
3. Are the student's communication skills functional and effective within his/her current educational setting?	_____	_____	_____
4. Has the student's progress been limited due to poor therapy attendance, school attendance, school transfers etc.?	_____	_____	_____
5. Has the student's parent/guardian requested speech-language services be discontinued?	_____	_____	_____
6. If services are not maintained, is there a potential for regression?	_____	_____	_____

Dismissal Considerations for Speech-Language Services

Student: _____ Date: _____

School: _____ SLP: _____

Re-evaluation is required by IDEA 04(34 CFR 300.303(a)) to determine that a child no longer has a disability. Re-evaluation should include current performance data and IEP progress data. Exit decisions must be individualized based on developmental norms, progress data, assessment information, educational need and the current best practices as determined by the IEP team. The IEP team may choose one or more of the following conditions as reason for discontinuation of speech-language services. It is important that the IEP process drive decisions regarding speech-language services. These decisions must be made on a case-by-case basis determined by the rate of progress, discrepancy from peers/standards, instructional need of the student and the IEP process.

Check the conditions that apply and have the parent initial following an explanation:

Rate of Progress

___ The student has met all speech-language goals and data indicates no additional needs. The IEP team determines that the child can make progress in general education without the support of speech-language services.

___ Given current medical, dental, neurological, physical, emotional, and/or developmental factors, the student's speech-language performance is within his/her expected performance range and maximum compensatory skills have been achieved and documented on the IEP.

___ The student has made minimal or no measurable progress and there has been a lengthy plateau. During this time, program modifications, varied approaches, and/or colleague consultations have been attempted and documented. Lack of progress is specified and documented on the IEP.

___ Limited carry-over, self-monitoring or generalization has been documented in one or more environments. Limited progress is documented on the IEP.

___ Data indicates that the student does not demonstrate the potential for change as documented in IEP progress reports.

Discrepancy from Peers/Standards

___ Data indicates that the speech and/or language concern no longer exists as documented on the IEP.

___ Speech-language concern no longer interferes with the student's educational performance including academic, vocational, and social functioning and is documented on the IEP.

___ Data indicates the student is more independent and less discrepant from peers as indicated on the IEP and is ready for reintegration into the general education classroom.

___ The student's communication skills are functional and effective within the student's current educational setting (special education and/or general education.)

Instructional Need

___ The student is unwilling or unmotivated to participate in treatment, attendance has been limited and/or participation precludes progress through therapeutic intervention. Attendance record over a period of time with attempts to improve attendance and participation are documented on the IEP.

___ Parent/legal guardian of student requests that speech-language services be discontinued (consider free appropriate public education, FAPE.)

___ Carryover goals can be met through the efforts of teachers and other professionals as documented on the IEP.

___ Data indicates that with modifications and/or alternative methods of responding to academic/social tasks the student performs satisfactorily within their current educational setting (special education and/or general education.)

_____

Parent Signature Date

_____

Speech-Language Pathologist Signature Date

Adapted from the following sources:
From "IDEA and your caseload: A template for eligibility and dismissal criteria for students ages 3 to 12, 1999, (ASHA), Technical Report. Rockville, MD. Reprinted with permission.
From "Developing educationally relevant IEP's: A technical assistance document for speech-language pathologists, 2000, Council for Exceptional Children. Reston, VA. Reprinted with permission.
From "Individuals with Disabilities Education Improvement Act, Public Law 108-446, 2004, U.S. Congress, Utah Utah State Board of Education Special Education Rules. Reprinted with permission.

Dismissal Considerations for Stuttering and Fluency Service

Student: _____ Date: _____

School: _____ SLP: _____

Students who are dismissed from stuttering/fluency therapy, may be referred again at a later date. This could be related to the presence of a disability or adverse educational effect.

People who stutter will experience stuttering relapses throughout their life. Dependent upon the age of the student, this relapse may be handled through the early intervention process or formal speech therapy. The IEP Team will need to determine the level of service required to address the specific student's needs.

Although stuttering may present as a lifelong disability, the adverse affect of the disability may vary at different times in the student's education. This may result in times when the student may not need (or be eligible) for services. At a later date, eligibility and services could be re-examined.

Check the conditions that apply and have the parent initial the condition, following an explanation

Behavior	Comments
The student demonstrates the knowledge and skills to maintain a feeling of control over stuttering • Student can use appropriate vocabulary to describe the stuttering episode • Student can use appropriate vocabulary to describe stuttering shaping or stuttering modification techniques • Student can use appropriate skills to change stuttering behavior	
The student demonstrates an ability to advocate for his/her own needs • Student can describe his stuttering and his abilities to others • Student uses effective interpersonal skills to handle discrimination, teasing, bullying	
The student desires dismissal and expresses a degree of satisfaction with his/her current success in therapy • Student can relate speech goals in the context of other career and personal goals and desires • Student understands how to get additional professional assistance, if needed	
The student generalizes an array of techniques to maintain appropriate fluency across multiple settings.	

_____

Parent Signature Date

_____

Speech-Language Pathologist Signature Date

Dismissal Considerations for Voice Service

Student: _____ Date: _____

School: _____ SLP: _____

Check the conditions that apply and have the parent initial the condition, following an explanation

Behavior: Comments:

___ The student demonstrates the skills to discriminate oral vs. hypernasal resonance and uses appropriate oral and nasal resonance in a variety of speaking situations/environments

___ The student demonstrates the skills to discriminate between phonation/tone focused in the throat, mouth and nose areas and the ability to use appropriate phonation/tone in a variety of speaking situations/environments

___ The student demonstrates the skills to discriminate between 3 vocal loudness levels and the ability to select and use appropriate loudness levels in a variety of speaking situations/environments

___ The student demonstrates the skills to discriminate between low and high pitch and uses optimal pitch in a variety of speaking situations/environments

___ The student demonstrates the skills to discriminate between breathy, hard attack and adequate onset of phonation and uses appropriate vocal quality/easy onset in a variety of speaking situations/environments

___ The student desires dismissal and expresses a degree of satisfaction with his/her current success in therapy
- Student can relate speech goals in the context of other career and personal goals and desires
- Student understands how to get additional professional assistance, if needed

___ The student generalizes an array of techniques to maintain appropriate resonance across multiple settings.

_____

Parent Signature Date

_____

Speech-Language Pathologist Signature Date

Benefits of Enhanced Service Delivery Model

- Provide better services to students
- Develop a consistent means to consult
- Deliver individualized and systematized interventions across settings
- Provide services in a naturalistic environment
- Ensure generalization of skills
- Guarantee maintenance of skills
- Ensure a system of faded prompts and supports to foster independence
- Provide multiple encounters and guided practice
- Determine and monitor progress in the general education curriculum
- Provide opportunity for observation of curriculum expectations
- Share expertise, training, and experience with other professionals and parents
- Ensure fidelity of services from team members throughout time
- Ensure time for enhanced parent communication
- Align with evidence-based practices
- Align with requirements from federal laws
- Allow time for other mandatory workload duties
- Conduct compliance paperwork
- Evaluate new students and conduct three-year reevaluations
- Participate on student assistance/planning teams
- Attend more IEP meetings
- Allow opportunity to increase direct student contact time if excessive sessions have been missed

Re: Enhanced Service Delivery Model

Dear Parents:

Traditionally, speech and language services have been provided by a Speech-Language Pathologist on a one-to-one or small group basis in controlled intervention settings. However, it is proven that diversifying service delivery options provided by various people in various activities and contexts increases the potential for student success. This means developing programs that are creative, adaptable, and dynamic. Thus, to better meet the needs of the students who receive speech and language services, Provo City School District will begin to use an Enhanced Service Delivery Model.

This type of schedule will consist of regularly scheduled speech sessions for three or four weeks followed by classroom visits for one week with the purpose of facilitating and observing targeted communication skills.

The Enhanced Service Delivery Model will allow me to best provide services to enable speech and language learners to perform at higher educational levels. This is achieved through classroom teacher collaborations and observations that permit me to monitor student progress, become more familiar with curricular expectations, observe opportunities for students to practice targeted communication skills, and demonstrate strategies and/or cueing techniques to assist in transfer of skills to the general education environment. Additionally, these scheduled times will lend itself to increased collaboration with individual teachers as we work together to design more appropriate intervention plans, modify curriculum, or gather progress-monitoring information.

The Enhanced Service Delivery Model will encourage us to provide more efficient and effective services to our students with communication needs. Teamwork and collaboration between teachers, Speech-Language Pathologists and parents are critical to the success of our students.

I am looking forward to working with you and your child this year! If, you have any questions or comments, please contact me.

Sincerely,

Re: Enhanced Service Delivery Model

To: Administrators and Teachers:

Traditionally, speech and language services have been provided by a Speech-Language Pathologist on a one-to-one or small group basis in controlled intervention settings. However, it is proven that diversifying service delivery options provided by various people in various activities and contexts increases the potential for student success. This means developing programs that are creative, adaptable, and dynamic. Thus, to better meet the needs of the students who receive speech and language services, Provo City School District will begin to use an Enhanced Service Delivery Model.

This type of schedule will consist of regularly scheduled speech sessions for three or four weeks followed by classroom visits for one week with the purpose of facilitating and observing targeted communication skills.

The Enhanced Service Delivery Model will allow me to best provide services to enable speech and language learners to perform at higher educational levels. This is achieved through classroom teacher collaborations and observations that permit me to monitor student progress, become more familiar with curricular expectations, observe opportunities for students to practice targeted communication skills, and demonstrate strategies and/or cueing techniques to assist in transfer of skills to the general education environment. Additionally, these scheduled times will lend itself to increased collaboration with individual teachers as we work together to design more appropriate intervention plans, modify curriculum, or gather progress-monitoring information.

Attached to this letter is an example of the sheet you will receive outlining the students I am currently serving from your classroom and times for you to select for me to make observations of them in your classroom. What I would like to observe is dependent upon the student's present performance on a targeted communication skill and may vary across different observation times. Please choose times that will enable me to witness specified skills (e.g., students focusing to direct instruction, participating in a class discussion or completing an assignment.) I would also like to set up times to collaborate about students and address questions or concerns that either of us may have. If you would like, my time in your classroom could also include modeling of strategies and/or teaching a lesson.

The Enhanced Service Delivery Model will encourage us to provide more efficient and effective services to our students with communication needs. Teamwork and collaboration between teachers, Speech-Language Pathologists and parents are critical to the success of our students.

Thanks for your support and cooperation!

Sincerely,

Schedule for Classroom Observation/Collaboration

Teacher: _____ For the week of: _____

Students and target skills I would like to observe: _____

_____

_____

_____

Skills the teacher would like me to observe and concerns to address: _____

_____

_____

_____

Please circle several times during highlighted days of the week that would be best for me to observe above listed student in your classroom. Please number your preference of times by numbering by priority - first, second and third. If you have any questions, or if you would like to discuss this student with me, please contact me. My email is: _____

Monday	8:30 - 9:00	10:30 - 11:00	12:30 - 1:00	2:00 - 2:30
	9:00 - 9:30	11:00 - 11:30	1:00 - 1:30	2:30 - 3:00
	9:30 - 10:00	11:30 - 12:00	1:30 - 2:00	3:00 - 3:30
	10:00 - 10:30	12:00 - 12:30		
Tuesday	8:30 - 9:00	10:30 - 11:00	12:30 - 1:00	2:00 - 2:30
	9:00 - 9:30	11:00 - 11:30	1:00 - 1:30	2:30 - 3:00
	9:30 - 10:00	11:30 - 12:00	1:30 - 2:00	3:00 - 3:30
	10:00 - 10:30	12:00 - 12:30		
Wednesday	8:30 - 9:00	10:30 - 11:00	12:30 - 1:00	2:00 - 2:30
	9:00 - 9:30	11:00 - 11:30	1:00 - 1:30	2:30 - 3:00
	9:30 - 10:00	11:30 - 12:00	1:30 - 2:00	3:00 - 3:30
	10:00 - 10:30	12:00 - 12:30		
Thursday	8:30 - 9:00	10:30 - 11:00	12:30 - 1:00	2:00 - 2:30
	9:00 - 9:30	11:00 - 11:30	1:00 - 1:30	2:30 - 3:00
	9:30 - 10:00	11:30 - 12:00	1:30 - 2:00	3:00 - 3:30
	10:00 - 10:30	12:00 - 12:30		
Friday	8:30 - 9:00	10:30 - 11:00	12:30 - 1:00	2:00 - 2:30
	9:00 - 9:30	11:00 - 11:30	1:00 - 1:30	2:30 - 3:00
	9:30 - 10:00	11:30 - 12:00	1:30 - 2:00	3:00 - 3:30
	10:00 - 10:30	12:00 - 12:30		

Speech and Language Schedule
Enhanced Service Delivery Week

Schools:	( )	( )	( )	( )	( )
Time	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
7:30					
7:45					
8:00					
8:15					
8:30					
8:45					
9:00					
9:15					
9:30					
9:45					
10:00					
10:15					
10:30					
10:45					
11:00					
11:15					
11:30					
11:45					
12:00					
12:15					
12:30					
12:45					
1:00					
1:15					
1:30					
1:45					
2:00					
2:15					
2:30					
2:45					
3:00					
3:15					
3:30					
3:45					

Sample Speech and Language Schedule
Enhanced Service Delivery Week

R – Elementary: Monday and Thursday A – Elementary: Tuesday, Wednesday, Friday

Week of: _____

Time	Monday	Tuesday	Wednesday	Thursday	Friday
7:30	A Elementary	A Elementary	A Elementary	R Elementary	R Elementary
8:15	Planning K	Planning 3rd	AEA Team Meeting	REA Team Meeting	Planning K
8:30	Contact Parent	Planning 5th	AEA Team Meeting	REA Team Meeting	Planning 1st
8:45	2nd F Observations	3rd M Observation	Follow up Conference	S.C. Class language	S.C. Class language
9:15	1st P Observations	5th R Observation	Follow up Conference KM	Collaborate 6th P	S.C. Class language
9:30	1st N Observations	5th S Observations	Prepare IEP	Collaborate 6th B	IEP Susie Q
9:45	Evaluate Johnny H	KM Class language	Collaborate 4th P	4th A Observations	IEP Susie Q
10:30	Evaluate Johnny H.	KR Class language	Collaborate 3rd A.	K S Observations	IEP Susie Q
11:00	Follow up 1 R	5th B Observations	Evaluate Nick	Evaluate Tommy	Evaluation Summary
11:30	Collaborate 5th M	Evaluate Robert	Evaluate Nick	Evaluate Tommy	Evaluation Summary
12:00	Lunch	Evaluate Robert	Follow up Conf	SC Class language	Evaluation Summary
12:30	Planning 6th grade	Lunch	Contact Parent	Lunch	Lunch
1:00	4th Collaborate Vocabulary	IEP Jimmy J	Contact Parent	6th H Co-teach	Oral Narrative Assessment
1:30	6th H Observation	IEP Jimmy J	Planning 3rd grade	KK Follow up	Oral Narrative Assessment
2:15	Collaborate 5th R	Collaborate 4th N	1 S Co-teach	Research for RTI methods	Conference with Parent
2:30	Preparation	Follow up Conf 6th T	Lunch	RTI research	Early Out
3:00	Co-teach PALS	Progress Reports	Conf. with teacher 3rd M	1st M Observations	Compliance Paperwork
3:30	Co-teach PALS	Progress Reports	IEP Pam S.	Planning 2nd grade	Compliance Paperwork

Teachers: This week is Enhanced Service Delivery. Please note the highlighted dates and times we previously scheduled to be in your classrooms. Remember, the only regularly scheduled sessions will be for classroom co-teaching and Self Contained classes.

Workload Activity Clusters